SANYO

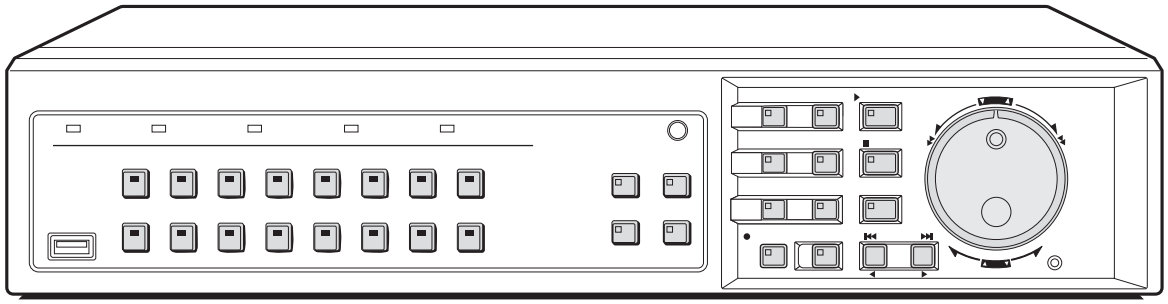
INSTRUCTION MANUAL

DSR-5716P
DSR-5709P

Digital Video Recorder with Multiplexer Function

About this manual

Before installing and using this unit,
please read this manual carefully.
Be sure to keep it handy for later reference.



- **Refer to the included CD-ROM for the German, French, Spanish and Italian "INSTRUCTION MANUAL".**
- **Die "BEDIENUNGSANLEITUNG" in den Sprachen Deutsch, Französisch, Spanisch und Italienisch finden Sie auf der beiliegenden CD-ROM.**
- **Utilisez le CD-ROM fourni pour consulter le "MANUEL D'INSTRUCTIONS" en allemand, français, espagnol et italien.**
- **Consulte en el CD-ROM suministrado el "MANUAL DE INSTRUCCIONES" en alemán, francés, español e italiano.**
- **Per il "MANUALE DI ISTRUZIONI" in Tedesco, Francese, Spagnolo e Italiano, fare riferimento al CD-ROM allegato.**

PRECAUTION

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR OTHER MOISTURE.
To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.
If the power supply cord (AC power cord) of this appliance is damaged, it must be replaced. Return to a SANYO Authorised Service Centre for replacement of the cord.

Location

For safe operation and satisfactory performance of your unit, keep the following in mind when selecting a place for its installation:
Shield it from direct sunlight and keep it away from sources of intense heat.
Avoid dusty or humid places.
Avoid places with insufficient ventilation for proper heat dissipation. Do not block the ventilation holes at the top and bottom of the unit. Do not place the unit on a carpet because this will block the ventilation holes.
Install the unit in a horizontal position only.
Avoid locations subject to strong vibrations.
Avoid moving the unit between cold and hot locations.
Do not place the unit directly on top of a monitor TV, as this may cause playback or recording problems.

Avoiding Electrical Shock and Fire

Do not handle the power cord with wet hands.
Do not pull on the power cord when disconnecting it from an AC wall outlet. Grasp it by the plug.
If any liquid is spilled on the unit, unplug the power cord immediately and have the unit inspected at a factory-authorised service centre.
Do not place anything directly on top of this unit.

SERVICE

This unit is a precision instruments and if treated with care, will provide years of satisfactory performance. However, in the event of a problem, the owner is advised not to attempt to make repairs or open the cabinet. Servicing should always be referred to your dealer or Sanyo Authorized Service Centre.

CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type recommended by the manufacturer.
Discard used batteries according to the manufacture's instructions.

WEEE Symbol Information

Please note:
Your SANYO product is designed and manufactured with high quality materials and components which can be recycled and reused.
This symbol means that electrical and electronic equipment, at their end-of-life, should be disposed of separately from your household waste.
Please dispose of this equipment at your local community waste collection/recycling centre.
In the European Union there are separate collection systems for used electrical and electronic products.
Please help us to conserve the environment we live in!

This symbol mark and recycle system are applied only to EU countries and not applied to the countries in the other area of the world.

Main features

■ **The digital video recorder records video from monitoring cameras to its internal hard disk, and it can display real video being monitored in four, six, nine, 13 or 16 screens. Recorded video can also be played back with multiple screens.**

The DSR-5709P can only display split screen video in four, six or nine screens.

■ **In addition to the two internal hard disks, expansion units can be added for four hard disks. The hard disks can also be used for mirroring.**

■ **Complete range of recording and playback functions**

- Simultaneous recording and playback of video at a maximum 100 frames per second.
- Timer recording allows recordings to be made at different times each day.
- Alarm recording allows the actions of intruders to be recorded.
- Zoom allows a certain section of monitored and playback video to be magnified.
- The video from specific cameras can be masked using a black pattern to prevent it being monitored.
- Motion sensing can be used with each camera. Alarms can be set up to record moving images.
- ROI allows recordings to be made with different picture quality for each area on the screen.

■ **Search function allows instant display of the desired recording. (→P.37)**

- Alarm log search allows efficient searching of large volumes of alarms.
- Search in order of alarm occurrence.
- Search by thumbnail using alarm search.
- Search by date/time.
- Search within the archive area.
- Search for intruder motion using motion detection search.

■ **Four-level user level function allows restriction of users for data and equipment management. (→P.115)**

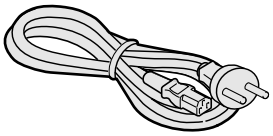
■ **Expandable and can be connected to a PC.**

- Connect a recordable CD drive or DVD drive (VA-EXD1), sold separately, to enable copying of recordings to a USB memory, CD-R/RW or DVD+R/+RW.
- A built-in LAN terminal provides support for network control, thus facilitating live monitoring, playback, searches and menu settings.
- Information on alarms and device malfunctions as well as alarm images can be sent by e-mail.
- Dome cameras can be controlled by button operations on the digital video recorder.

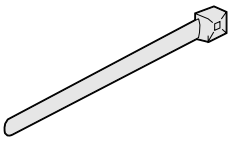
Accessories

Check that you have all the parts shown below.

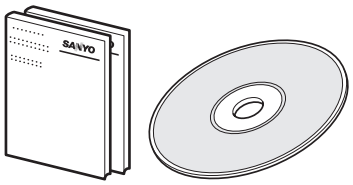
Power cord



Power cord tie



- **Instruction Manual (DVR/Network)**
- **Quick Guide**
- **CD-ROM Manual**



Symbols used in this manual

NOTE ▶ Information describing operation methods or how to get the most out of functions.

CAUTION Information describing the correct use of the digital video recorder.

(→P.xx) indicates the page to be referred to.

Copyright

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MD5 License

RSA Data Security, Inc. MD5 Message-Digest Algorithm.

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Notes on handling the internal HDD

This digital video recorder uses an internal HDD.
Be sure to observe the following points carefully when operating, setting-up, or servicing the digital video recorder.

■ Do not subject the digital video recorder to sudden impact or vibration.

If the digital video recorder is subjected to sudden impact or vibration, it may damage the hard disk or cause corruption of the data stored within it.

- Do not move the digital video recorder while the power is turned on. Always ensure that the power is turned off before removing the digital video recorder from or placing it in a rack.
- When transporting the digital video recorder, pack it securely using the specified materials. In addition, choose a method of transportation that minimizes vibration.
- When placing the digital video recorder on the floor or another similar surface, attach the specified pads to its base and place it down gently.

■ Do not move the digital video recorder for 30 seconds after turning off the power.

After the power is turned off, the disk inside the HDD continues to spin for a brief period due to inertia and the heads are in an unstable condition.
During this period, the digital video recorder is even more susceptible to damage from sudden impact and vibration than when it is turned on. Make sure that the digital video recorder is not subjected to even gentle vibration for at least 30 seconds after turning off the power.

■ Do not operate the digital video recorder when condensation has formed on it.

If the digital video recorder is operated in this type of condition, there is a possibility that it may become permanently damaged.
If the temperature around the digital video recorder changes suddenly, wait for it to stabilize before operating the digital video recorder.

■ Notes on replacing the HDD

Be sure to follow the correct procedure when replacing the HDD.

- HDDs that have been removed from their packing may not operate correctly if they are subjected to sudden impact or vibration. It is recommended that you place the HDD on a soft, level surface with the printed circuit board facing upward after it has been unpacked.
- Take care to avoid subjecting the HDD to sudden impact or vibration when removing and tightening screws as part of the HDD replacement procedure.
  Tighten all screws securely to ensure that they do not loosen.
- The HDD is sensitive to static electricity; accordingly, you should take the appropriate precautions to prevent the buildup of static charges.

■ Handling a detached HDD unit

If transporting or storing the HDD unit in a detached condition, be sure to first of all pack it using the specified materials.
In addition, choose a method of transportation that minimizes vibration.

Notes on installation locations

Avoid subjecting the HDD to sudden impact or vibration. In addition, avoid using it in dusty locations or near magnetic objects. The following precautions should be observed in order to prevent the loss of recorded data:

- Do not subject the digital video recorder to sudden impact.
- Do not use the digital video recorder on a vibrating or unstable surface.
- Do not disconnect the power plug from the wall outlet during recording or playback.
- Do not use the digital video recorder in areas with extreme temperature changes (i.e., 10ºC or more per hour).
- Condensation may occur if the digital video recorder is moved to an area with a significantly different temperature or high humidity. If the digital video recorder is used with condensation inside, operating problems may occur.
- Do not install the digital video recorder inside motor vehicles, trains, or other areas with constant vibration.
- The digital video recorder has ventilation holes on its left, rear, and bottom panels. Ensure that these holes are not blocked after installation.
- Do not use the digital video recorder in a bookshelf, box, or any other area with poor ventilation.
- This digital video recorder is designed for use in a horizontal orientation, and vertical setup may result in malfunction.
- When installing the digital video recorder in a rack, ensure that a gap of at least 5 cm at the back and sides and 1 cm at the top and bottom is provided.

Notes on handling the hard disk drive

■ Replacement time of worn or deteriorated components

A hard disk is a component that wears out or deteriorates from use; its service life depends on the usage environment. If used at a temperature of 25°C, for example, it becomes prone to writing errors when the total power feeding time exceeds two years. If used further, it may reach the end of its service life due to deterioration of the head and/or motor.
For worry-free use of your hard disk drive, it is recommended as a general rule of thumb to use at an ambient temperature of 25°C and replace it with new one every two years.
(This replacement time span, however, is just a rough guide and does not guarantee the service life.)

■ Hard disk service life

As a hard disk is precision mechanical equipment, handle it with care to avoid a physical shock.

- Shock or vibration may cause the hard disk to malfunction.
- Do not move or install the hard disk immediately after turning it on or off, i.e. for approximately 30 seconds, because its operation is still unstable.
- Do not block the ventilation holes or stop the cooling fan. Temperature rise inside may shorten the service life of the hard disk drive.

■ Automatic verification function of the hard disk drive and cooling fan operation

You can confirm the operation status of the hard disk drive by viewing the flashing of the ALARM indicator on the front panel. Check the ALARM indicator before contacting the dealer.

- Lamp off: Normal operation
- Fast flashing: Abnormal condition of hard disk
- Slow flashing: Abnormal condition of cooling fan

■ Replacement time of main components or parts

With continuous operation of the digital video recorder at a temperature of 25°C, for example, its components and/or parts may wear out or deteriorate depending on the usage environment. To keep the performance of the digital video recorder, it is recommended as a general rule of thumb to replace components and parts based on the following time spans. However, note that each replacement time span is just a rough guide and does not

- Hard disk: Two years
  As time goes by, the head and motor wear out or deteriorate. When replacing a hard disk, it is also recommended to replace the damper, or vibration absorber as well.
- Cooling fan: Three years
  Malfunction of the fan cause temperature inside the equipment to rise, and this may lead to hard disk failure.

Important recordings

- Always perform test recording in advance to confirm whether the playback of the digital video recorder is normal.
- Note that Sanyo accepts no responsibility for losses occurring as a result of recording or playback problems caused by malfunction of this digital video recorder or any connected devices.
- As a precaution against malfunction or accidents, it is advisable to periodically back up important recordings or to perform mirroring.

Protection of the HDD

The HDD is checked automatically when the power is turned on. If an abnormality is detected, the ERROR indicator begins to flash. To initialize the HDD or to save images stored on it, contact the dealer from whom this digital video recorder was purchased.

Backup battery

The digital video recorder comes with a built-in lithium battery. If power is supplied continuously for at least 48 hours after setting the date and time, the clock continues to operate normally for up to 30 days without a supply of power.
When disposing of this digital video recorder, contact the dealer from whom it was purchased for information on how to dispose of the lithium battery.

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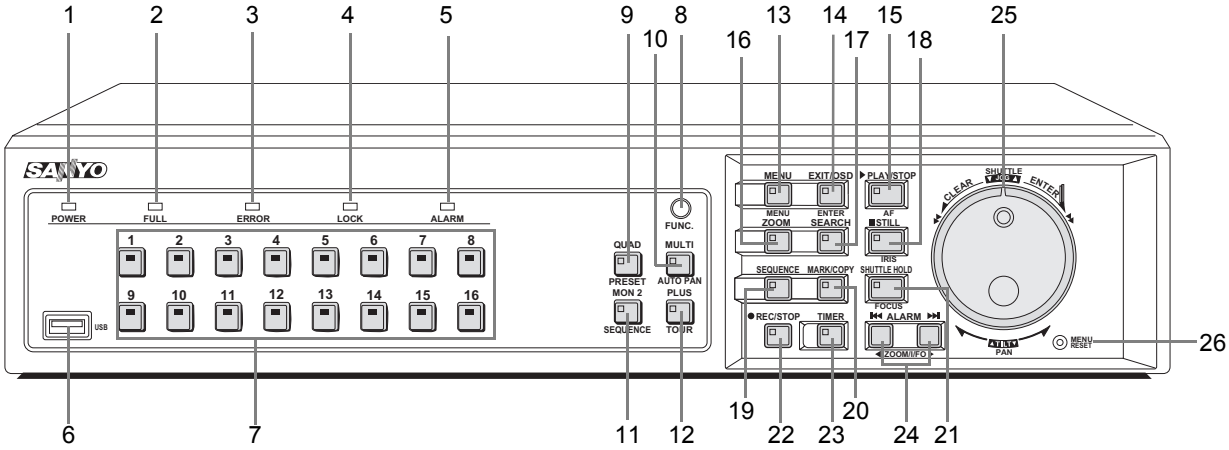

Front panel

1. POWER indicator
Lights up when the power is on.

2. FULL indicator (→P.86)
Flashes when the amount of available memory in the hard disk's recording area drops to the percentage specified using menu settings.
In addition, recording stops automatically when no more memory is available, and the FULL indicator switches to a permanently lit condition.
The indicator can then be turned off by performing "AREA FULL RESET".

3. ERROR indicator (→P.17)
This indicator flashes if the HDD or fan begins to malfunction.

4. LOCK indicator (→P.118)
Lights up when operations have been locked.
The LOCK indicator turns off when the lock condition is cancelled.

5. ALARM indicator
Flashes during alarm recording.
The ALARM indicator lights up during pre-alarm recording.

6. USB terminal (→P.57)
Connects to a recordable CD/DVD drive or a USB memory. For compatibility, refer to the SANYO homepage.
http://www.sanyosecurity.com/
When the USB port on the rear panel is also connected at the same time, only the front port will be used preferentially.

7. [CAMERA SELECT] buttons and indicators
When one or more cameras have been connected to the VIDEO IN terminals on the digital video recorder's rear panel and the appropriate [CAMERA SELECT] button is pressed, the corresponding indicator lights up and the video feed from that camera is displayed on-screen.

- During quad, multi 9, or multi 16 screen display:
  The indicators corresponding to the cameras being displayed on the monitor light up.
- During video loss:
  The indicator starts to flash.
- If an alarm occurs:
  The indicator for the corresponding camera starts to flash.

8. [FUNC.] button
Activates dome camera operation mode. The operation of other buttons changes. (→P.150) Use also for advanced menu functions.

9. [QUAD] button and indicator (→P.23)
Displays video in quad screens. The indicator lights up while in quad screen display.
The indicator turns off when using a different screen display mode.

10. [MULTI] button and indicator (→P.24)
Displays video in multi 9 or multi 16 screen display.
The indicator lights up while in multi 9 or multi 16 screen display.
The indicator turns off when using a different screen display mode.
The DSR-5709P can only display video in nine screens.

11. [MON2] button and indicator (→P.26)
If the [MON2] button is pressed while a monitor is connected to the MON2 output terminal on the rear panel, it is possible to change the monitor 2 video. The [CAMERA SELECT], [SEQUENCE] and [QUAD] buttons can be used. The indicator lights up when this mode is selected.

12. [PLUS] button (→P.24)
Changes the video from a single camera to quad screen size during multi 9, multi 16, full screen or quad screen display. For DSR-5709P, this operation is available when in multi 9, quad and full screen display.

13. [MENU] button and indicator
Displays the menu screens (i.e., setting screens), and the indicator lights up while any of these screens is being displayed.

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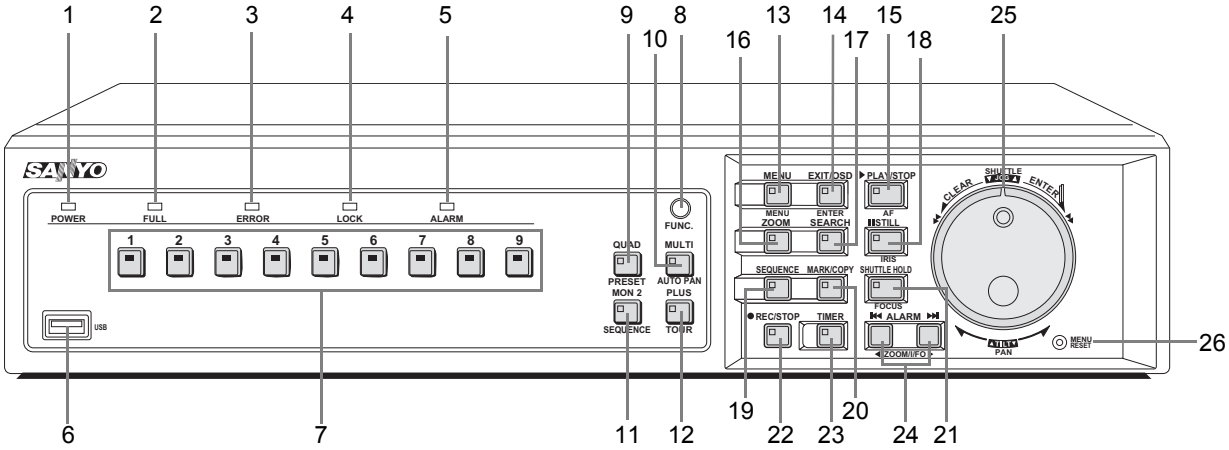

14. [EXIT/OSD] button and indicator

- EXIT:

Exits the main menu or a sub-menu. When a menu is displayed, the indicator turns off.
(The EXIT operation is disabled while the WARNING screen is displayed or a setting for menu item is being selected (with light flashing) on the menu screen.)

- OSD:

Each time the [OSD] button is pressed while the digital video recorder is recording, playing, or stopped, the operation display area changes position between the top and bottom of the screen or becomes hidden; furthermore, the indicator lights up whenever this information is being displayed.

15. [PLAY/STOP] button and indicator (→P.32)
When the [PLAY/STOP] button is pressed, the video from the recording area is played and the indicator lights. When pressed during playback, this button stops the digital video recorder.

16. [ZOOM] button and indicator (→P.33)
When the [ZOOM] button is pressed during playback or monitoring of camera video on a full screen, a portion of the playback video is magnified and the indicator lights.

17. [SEARCH] button and indicator (→P.38)
When the [SEARCH] button is pressed while the digital video recorder is recording or stopped, the search menu is displayed and the indicator lights up. Press this button again to close the search menu.

18. [STILL] button and indicator (→P.34)
When the [STILL] button is pressed during playback, the current frame is displayed as a still image and the indicator lights up. Press this button again to cancel.

19. [SEQUENCE] button and indicator (→P.25)
Automatically switches the camera video during monitoring. When this button is pressed, the indicator begins flashing and the display is changed automatically. The [CAMERA SELECT] button indicator lights in accordance with screen changes.

20. [MARK/COPY] button and indicator (→P.53)

- MARK

You can bookmark any video images during recording or playback.

- COPY

Copies recorded video onto the hard disk archive area, USB memory, CD-R/RW disk, DVD+R/+RW disk or other media. The indicator lights up during the copy process.

21. [SHUTTLE HOLD] button and indicator (→P.32)
Locks shuttle dial operation for a constant speed during playback or slow playback.
The indicator lights up while the shuttle dial is locked.

22. [REC/STOP] button and indicator (→P.29)
Starts normal recording, and the indicator lights up during this process.
Press this button for at least three seconds to stop recording and turn off the indicator.

23. [TIMER] button and indicator (→P.29)
If the [TIMER] button is pressed while the recording is stopped, timer recording standby mode is selected and recording starts automatically at the set time. The indicator lights up while in timer recording standby mode.
If the button is pressed during timer recording, this process is stopped and the indicator turns off. Furthermore, if the [TIMER] button is pressed when in timer recording standby mode, timer recording is cancelled.

24. [ALARM] button (→P.42)
When an [ALARM] button is pressed during playback or still, the digital video recorder skips to the next earlier or next later alarm.

25. Jog dial (inside) and shuttle dial (outside)

- During playback:
  Use the jog dial to change the playback speed.
  Use the shuttle dial to perform fast-forward or fast-reverse playback.
- During menu display:
  Use the jog dial to move the cursor and to change setting values. Use the shuttle dial to confirm settings.

26. [MENU RESET] button (→P.64)
Restores displayed menus to default menu settings.

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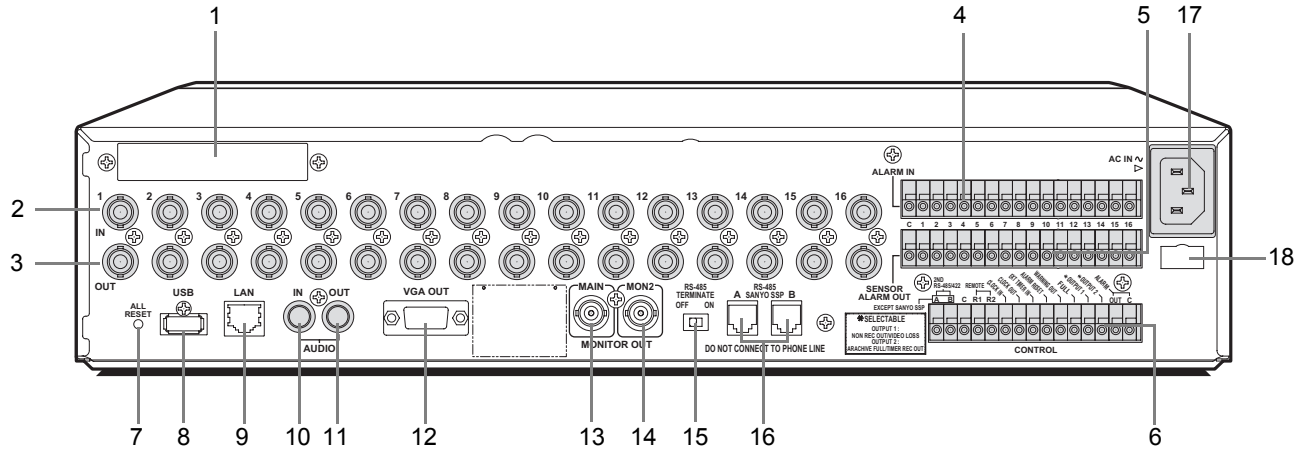
The number of terminals for the DSR-5709P may differ. For more details, see below.



Rear panel

1. Optional board slot

You can use the slot to add on a RAID unit using a SCSI (VZU-SCB1) interface or to connect an expansion unit via an S-ATA (VZU-SATB1) board. You cannot use a RAID unit and an expansion unit at the same time.
Please contact the dealer for details.
When handling and connecting, be sure to read the instruction manual included with the option board.

2. VIDEO IN terminals

Connects to video cameras.
The DSR-5709P has nine terminals.

3. VIDEO OUT terminals

Connects to a monitor to view camera images.
The DSR-5709P has nine terminals.

4. ALARM IN terminals (1 to 16)

Connects to an externally installed alarm switch. Operate the alarm switch for alarm recording.
The DSR-5709P has nine terminals.

Pin	Signal
C	Ground
ALARM IN 1	Alarm input No. 1
ALARM IN 2	Alarm input No. 2
ALARM IN 3	Alarm input No. 3
ALARM IN 4	Alarm input No. 4
ALARM IN 5	Alarm input No. 5
ALARM IN 6	Alarm input No. 6
ALARM IN 7	Alarm input No. 7
ALARM IN 8	Alarm input No. 8
ALARM IN 9	Alarm input No. 9
ALARM IN 10	Alarm input No. 10
ALARM IN 11	Alarm input No. 11
ALARM IN 12	Alarm input No. 12
ALARM IN 13	Alarm input No. 13
ALARM IN 14	Alarm input No. 14
ALARM IN 15	Alarm input No. 15
ALARM IN 16	Alarm input No. 16

5. SENSOR ALARM OUT terminals

The terminals are used when motion sensors have been set (→P.105) to output an alarm signal to a connected device upon detection of motion.
The DSR-5709P has nine terminals.

Pin	Signal
C	Ground
SENSOR ALARM OUT 1	Output of an alarm signal for Camera No. 1
SENSOR ALARM OUT 2	Output of an alarm signal for Camera No. 2
SENSOR ALARM OUT 3	Output of an alarm signal for Camera No. 3
SENSOR ALARM OUT 4	Output of an alarm signal for Camera No. 4
SENSOR ALARM OUT 5	Output of an alarm signal for Camera No. 5
SENSOR ALARM OUT 6	Output of an alarm signal for Camera No. 6
SENSOR ALARM OUT 7	Output of an alarm signal for Camera No. 7
SENSOR ALARM OUT 8	Output of an alarm signal for Camera No. 8
SENSOR ALARM OUT 9	Output of an alarm signal for Camera No. 9
SENSOR ALARM OUT 10	Output of an alarm signal for Camera No. 10
SENSOR ALARM OUT 11	Output of an alarm signal for Camera No. 11
SENSOR ALARM OUT 12	Output of an alarm signal for Camera No. 12
SENSOR ALARM OUT 13	Output of an alarm signal for Camera No. 13
SENSOR ALARM OUT 14	Output of an alarm signal for Camera No. 14
SENSOR ALARM OUT 15	Output of an alarm signal for Camera No. 15
SENSOR ALARM OUT 16	Output of an alarm signal for Camera No. 16

6. Control terminals

Pin	Signal
2ND RS485/422 A	Control terminal (A)
2ND RS485/422 B	Control terminal (B)
C	Common terminal
REMOTE R1	Remote input 1
REMOTE R2	Remote input 2
CLOCK IN	Clock adjust input terminal
CLOCK OUT	Clock adjust output terminal
EXT TIMER IN	External timer input terminal
ALARM RESET	Alarm reset signal input
WARNING OUT	Warning output for abnormal conditions of hard disk drive or fan
FULL	Remaining-space warning output for recording area
OUTPUT 1*	NON REC OUT/VIDEO LOSS
OUTPUT 2*	ARCHIVE FULL/TIMER REC OUT
ALARM OUT	Alarm output
ALARM C	Common terminal for alarm output

* Specify the output settings for the OUTPUT 1 and OUTPUT 2 terminals on the <DISPLAY SET> screen.

7. [ALL RESET] button
When the [ALL RESET] button is pressed, the digital video recorder is reset and the time is returned to its default setting.

8. USB terminal
Connects to a recordable CD/DVD drive (e.g. VA-EXD1, sold separately) or a USB memory. For information about supported CD/DVD drives, visit the SANYO website at: http://www.sanyosecurity.com/
When the USB port on the front panel is also inserted at the same time, only the front port will be used preferentially.

9. LAN terminal (10BASE-T/100BASE-TX)
Connect to switching hubs, routers and PCs.

10. AUDIO IN terminal
Connect a microphone via an amplifier in order to record audio.

11. AUDIO OUT terminal
Connect speakers via an amplifier in order to output audio.

12. VGA OUT terminal
Connect a VGA monitor to this terminal so that it obtains high-resolution video output at XGA (1024 x 768) / 75Hz.

13. MAIN MONITOR output terminal
Connects to the main monitor.

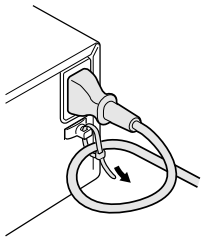
14. MON2 output terminal
Connects to monitor 2.

15. RS-485 termination switch
Used when connecting multiple devices from the RS-485 control connectors.

16. RS-485 control connectors (A) (B)
Connects to a system controller or dome cameras.

17. AC power socket (AC IN)
Insert the supplied power cord securely into this socket.

18. Power cord holder
Secure the power card to the holder using the power cord tie (accessory) as shown in the illustration.



3 INSTALLATION AND CONNECTIONS

The digital video recorder shall be installed by qualified service technician only.

This section describes how to connect the digital video recorder to video cameras and other devices. Be sure to read the instruction manuals for each connected device.

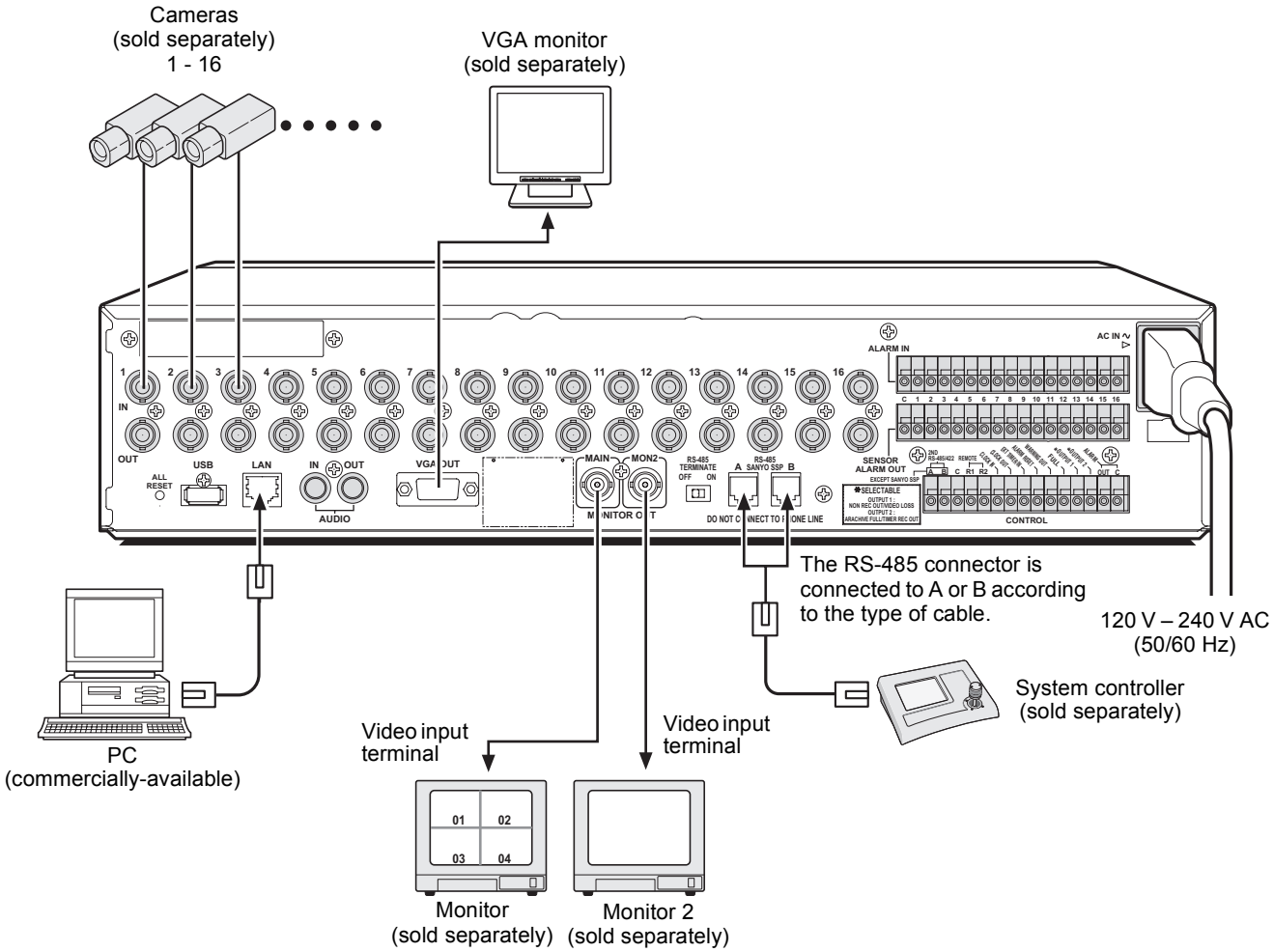
CAUTION

- Improper connections may result in malfunction or smoke emission.
- A separate power supply is required for operation of each camera.
- Manage power for all expansion units with a single power source. Otherwise, data may be lost.

Basic connections

DSR-5716P

Only nine cameras can be connected to the DSR-5709P.
The following diagram shows the connections for cameras, monitors, a PC and a system controller.



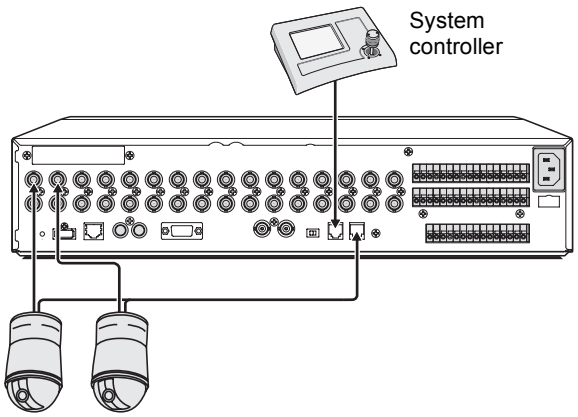
CAUTION

- If you connect an outdoor camera to the digital video recorder, make sure to establish a ground for the shielded portion of the connection cable.
- Make sure to use a wall socket with ground fault protection.

Connecting RS-485 control terminals

A system controller or another DVR can be connected to the RS-485 control terminal. Perform settings in the <RS-485 SET> screen (→P.120) when connecting system controller.

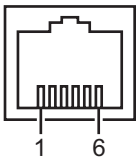
Control a connected SANYO camera with an RS-485 control terminal using a system controller or the digital video recorder itself. To control a camera equipped with an RS-485 control terminal, perform settings in the <CAMERA CONTROL SET> screen (→P.150).



NOTE

- Connect as shown above and set to full screen in the <CAMERA CONTROL SET> screen to control camera with the digital video recorder.
- Control a camera by directly entering the camera address with the system controller regardless of the <CAMERA CONTROL SET> screen settings when the cameras and the system controller are connected as shown above.

RJ-11 Pin locations



CAUTION

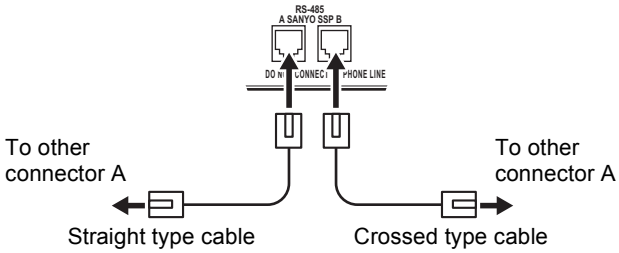
- Do not connect to phone line.

Pin number	Connector A signal	Connector B signal
1	Not used	Not used
2	Not used	Not used
3	A	B
4	B	A
5	Not used	Not used
6	Not used	Not used

(A is left and B is right, viewed from the back.)
A: Non-inverting driver output/receiver input
B: Inverting driver output/receiver input

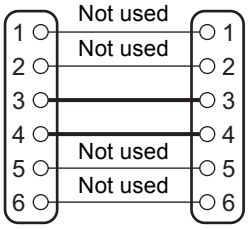
Connection

The digital video recorder supports both straight type and crossed type connection cables.
When using a straight type connection cable, connect the RS-485 connector pin A to the pin A socket, or pin B to the pin B socket.
When using a crossed type connection cable, connect the RS-485 connector pin A to the pin B socket, or pin B to the pin A socket.

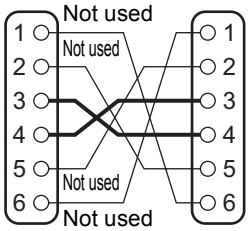


Cable types

Straight type:



Crossed type:



NOTE

- Perform settings in the <RS-485 SET> screen when a system controller is connected (→P.120).

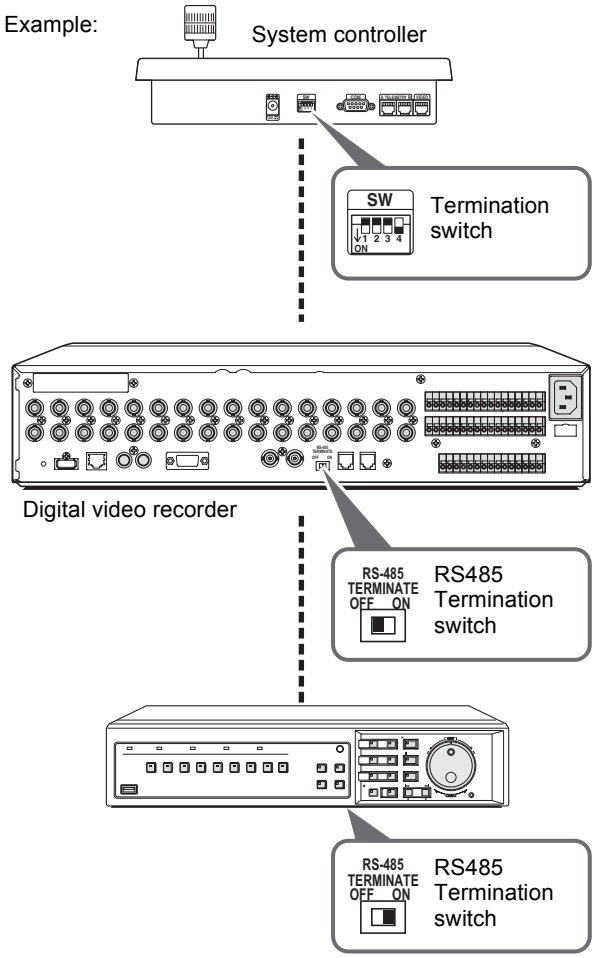
RS-485 termination switch settings

When connecting multiple devices, it is necessary to make termination settings on both end devices.

- Set the RS-485 termination switch of both end devices to ON.
- Be sure to set the RS-485 termination switches of all devices in between (devices other than the first and last devices) to OFF.

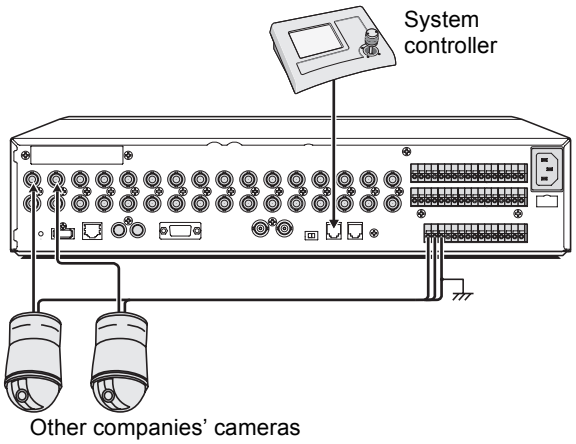
CAUTION

- If the termination settings are not correctly made, the incorrect data is transmitted to each device.



Connecting to a 2ND RS485/422 terminal

Connect camera to the 2ND RS485/422 terminal with a twisted-pair cable and perform settings in the <CAMERA CONTROL SET> screen (→P.150) to control the camera with the connected system controller or with the digital video recorder.



NOTE

- Connect as shown above and set to full screen in the <CAMERA CONTROL SET> screen to control camera with the digital video recorder.
- If connected as shown above, settings must be made in <CAMERA CONTROL SET> screen.
- Connect other companies' cameras to the 2ND RS-485/422 terminals.

Operation

1 Connect as above.

Connect SSP dome cameras to VIDEO IN 1 and 2.

2 Set the camera numbers and protocols in the <CAMERA CONTROL SET> screen. (→P.150)

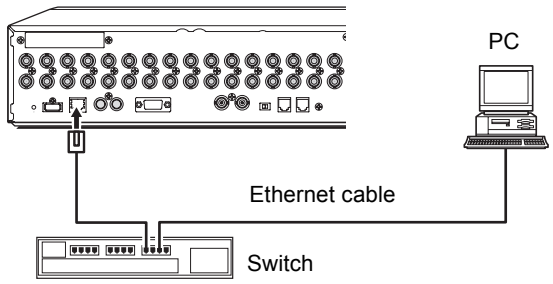
3 Operate the dome cameras with the front panel buttons. (→P.153)

Connecting a LAN terminal

Connect to a PC for control of the digital video recorder over a network with a switch or connect to the Internet.

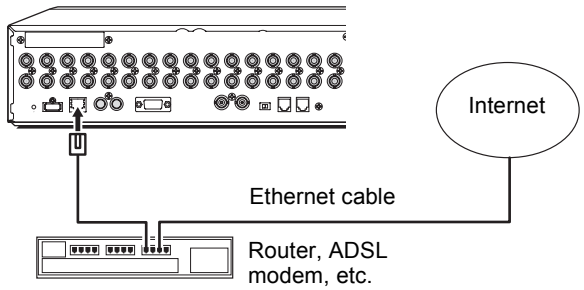
LAN connection

To enable control of the digital video recorder over a network, connect to the switch via Ethernet cable or make a similar connection.
You may use either a straight or cross type Ethernet cable.



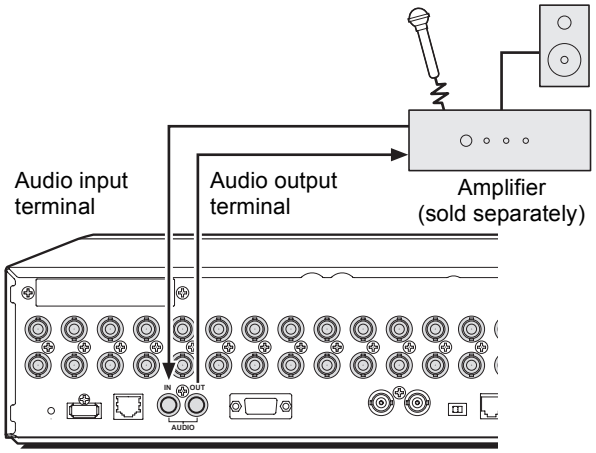
Internet connection

Connect to the Internet via a router or similar device.
When connecting to a router, you may use either a straight or cross type Ethernet cable.
To connect to an ADSL modem and other devices, be sure to read the instruction manuals for each connected device.



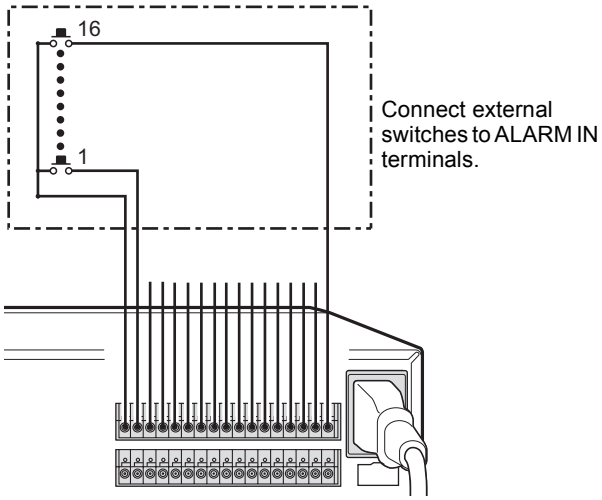
Connecting an amplifier

Connect a microphone and speakers via an amplifier in order to input or output audio.



Connecting alarm input terminals

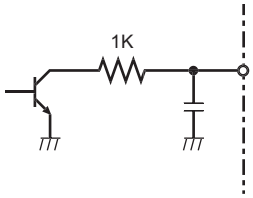
When using external alarms (i.e., intruder sensors), connect external switches to the ALARM IN terminals.



Only terminals 1 to 9 are available on the DSR-5709P.

Connecting SENSOR ALARM OUT terminals

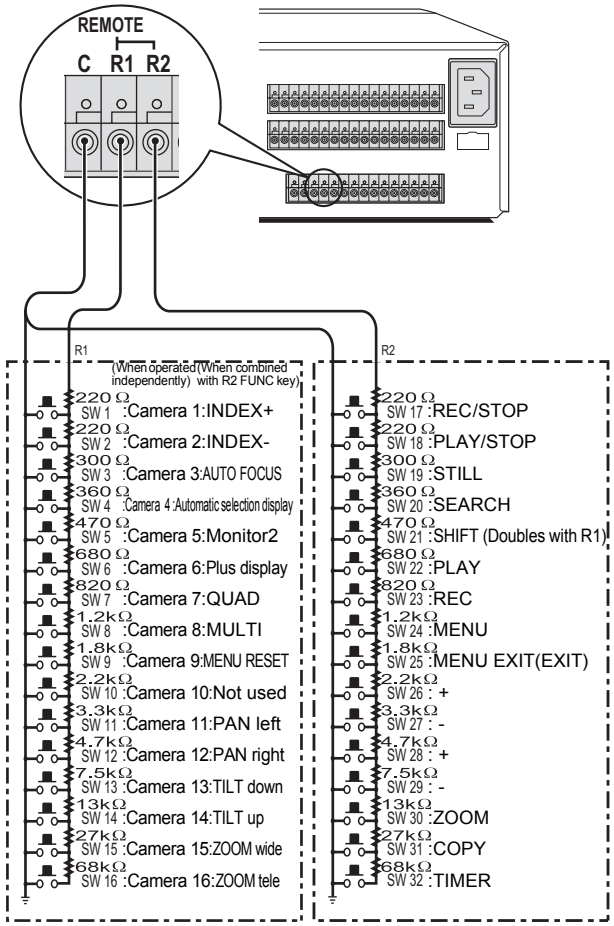
The SENSOR ALARM OUT terminals are used to relay alarm signals whenever one of the digital video recorder's motion sensors is triggered. Normally in an open condition, a terminal adopts a low condition when a sensor for the corresponding camera number has been triggered.



Rated value of terminals
- Maximum current: 10 mA
- Maximum power: 1/10 W

Connecting control terminals

The connections for a remote control circuit are shown below. This digital video recorder can be remotely controlled when a remote-control circuit similar to that shown here is connected to the remote-input control terminals.


REMOTE
C R1 R2
R1
(When operated (When combined independently) with R2 FUNC key)
220 Ω SW 1 :Camera 1:INDEX+
220 Ω SW 2 :Camera 2:INDEX-
300 Ω SW 3 :Camera 3:AUTO FOCUS
360 Ω SW 4 :Camera 4 :Automatic selection display
470 Ω SW 5 :Camera 5:Monitor2
680 Ω SW 6 :Camera 6:Plus display
820 Ω SW 7 :Camera 7:QUAD
1.2kΩ SW 8 :Camera 8:MULTI
1.8kΩ SW 9 :Camera 9:MENU RESET
2.2kΩ SW 10 :Camera 10:Not used
3.3kΩ SW 11 :Camera 11:PAN left
4.7kΩ SW 12 :Camera 12:PAN right
7.5kΩ SW 13 :Camera 13:TILT down
13kΩ SW 14 :Camera 14:TILT up
27kΩ SW 15 :Camera 15:ZOOM wide
68kΩ SW 16 :Camera 16:ZOOM tele
R2
220 Ω SW 17 :REC/STOP
220 Ω SW 18 :PLAY/STOP
300 Ω SW 19 :STILL
360 Ω SW 20 :SEARCH
470 Ω SW 21 :SHIFT (Doubles with R1)
680 Ω SW 22 :PLAY
820 Ω SW 23 :REC
1.2kΩ SW 24 :MENU
1.8kΩ SW 25 :MENU EXIT(EXIT)
2.2kΩ SW 26 : +
3.3kΩ SW 27 : -
4.7kΩ SW 28 : +
7.5kΩ SW 29 : -
13kΩ SW 30 :ZOOM
27kΩ SW 31 :COPY
68kΩ SW 32 :TIMER

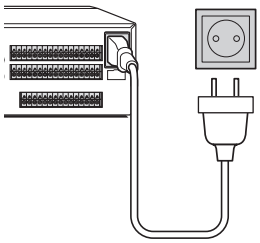
- Use a resistance of 1/10 ohms or more and with a D ranking (Precision within ±0.5%).
- The remote control cable should be no more than 5 m long.

* The DSR-5709P can operate up to nine cameras.

Connecting the power cord

1 After all other connections are made, make sure the voltage is 120 V-240 V AC and then insert the power plug into the wall outlet.

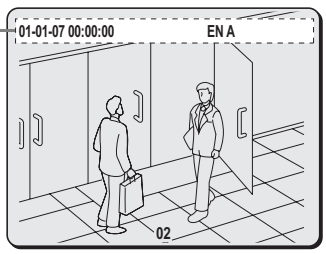
There is no power switch. The display indicators flash, and after a few moments, the monitor screen displays the camera video.



120 V-240 V AC
(50/60 Hz)

- When turning the power on for the first time
  "PLEASE SET THE CLOCK" is displayed on the monitor screen. Set the clock. (→P.20)
- If the clock is already set
  The operation display area is displayed.

Operation display area

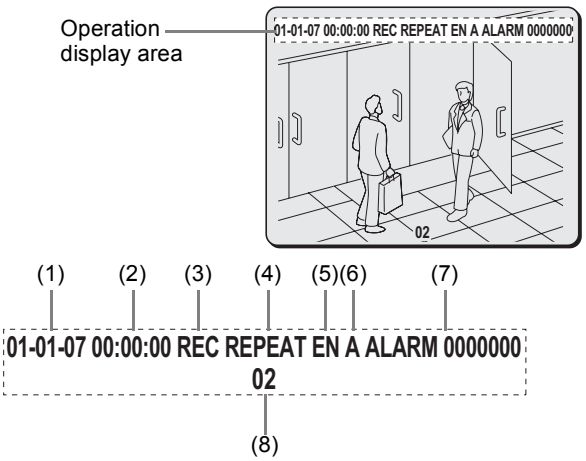


CAUTION

- If the ERROR indicator starts flashing
  The digital video recorder has a self-diagnostic function to find malfunctions. If a malfunction occurs while the power is on, the ERROR indicator flashes in a cycle to indicate the malfunction.
  If the ERROR indicator flashes, contact a Sanyo service center.
  When flashing at 4Hz (Four times per second):
  The hard disk is checked automatically when the power is turned on. The POWER indicator flashing indicates that a malfunction has been found on the hard disk and the hard disk must be replaced or initialized. If you need to save video stored on the disk, contact a Sanyo service center.
  When flashing at 1Hz (Once per second):
  A fan malfunction has occurred.
- The power cord's ground terminal is not provided for enhanced safety; rather, it is used to reduce the level of interference when the digital video recorder is connected to analog devices.
  If a large amount of noise is generated when the digital video recorder is connected to analog devices, connect this terminal to the building earth ground.

Operation display

When the power is turned on, the operation display is shown at the top of the monitor screen. This area indicates the date, time, picture quality and other information needed for operation.


Operation display area
01-01-07 00:00:00 REC REPEAT EN A ALARM 0000000
02
(1) (2) (3) (4) (5)(6) (7)
01-01-07 00:00:00 REC REPEAT EN A ALARM 0000000
02
(8)

* The above is an example display. This is not the default.

(1) Date display (→P.20)
Be sure to specify the correct date using menu settings.

(2) Time display (→P.20)
Make sure to specify the time using menu settings. Recording is not possible until the time is set.

(3) Operation symbol display
Displays the current operation, such as recording or playback.

REC: Recording	▶▶: Fast-forward playback
EXT: External timer recording	◀◀: Fast-rewind playback
▶: Normal playback	▮▮▶: Slow playback
◀: Reverse playback	◀▮▮: Reverse slow playback
▮▮: Still	

CAUTION

- The digital video recorder uses the date and time to manage recording and playback points. Accordingly, if the time has not been set correctly, it is not possible to effectively search for video data.

NOTE

- During simultaneous recording and playback, the display indicates playback (▶).

(4) Remaining memory in recording area (→P.85)
It is displayed while recording.
Displays the remaining area memory as a percentage when overwriting in the recording area is not permitted. If overwriting is permitted, “REPEAT” is displayed.

(5) Picture quality display (→P.88, P.99)
Displays the quality of the video that can be recorded on the hard disk. Set to “EN” (Enhanced) by default setting.

[Settings] (◆ indicates default setting)

BA	Basic
NO	Normal
◆EN	Enhanced
FI	Fine
SF	Super Fine

(6) Audio recording display
“A” is displayed when audio is being recorded. “A” is displayed when audio is being played back if audio is recorded.

(7) Alarm display and alarm count display (→P.98)
When an alarm is set using the “ALARM REC MODE SET” menu item, the following information is displayed.

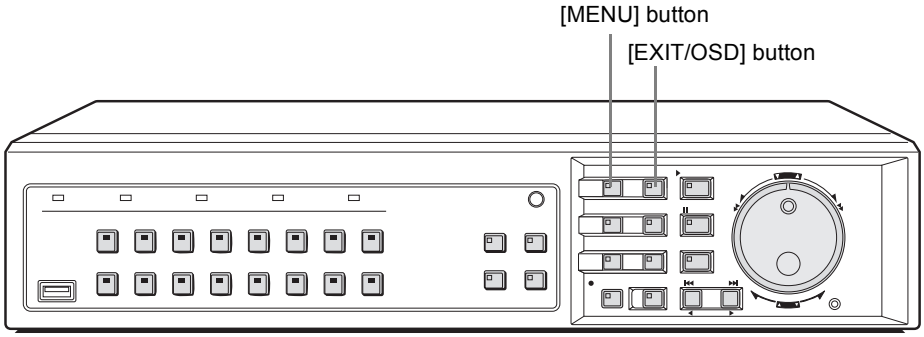
- When alarm recording is set;
  “ALARM” and the alarm number are displayed in stand-by mode.
  “ALARM” flashes during alarm recording.
- When pre-alarm recording is in progress;
  “PRE” and the alarm number are displayed in stand-by mode.
  When an alarm occurs, “PRE” disappears and “ALARM” and the alarm number are displayed.
- When performing playback from the archive area;
  “ARCHIV” and the backup number are displayed.

(8) Camera title display
The camera number or camera title is displayed. Also, when an alarm occurs the camera number and alarm “EA”, “SA”, or “ES” are displayed.

- When an external alarm signal is activated;
  “EA” flashes to the left of the camera number.
- When a motion sensor alarm signal is activated;
  “SA” flashes to the left of the camera number.
- When an external alarm signal and motion sensor signal are activated;
  “ES” flashes to the left of the camera number.

NOTE

- Although operations such as playback, copying and data transfer are possible while recording, this unit gives priority to recording, and other operations may be delayed as a result.

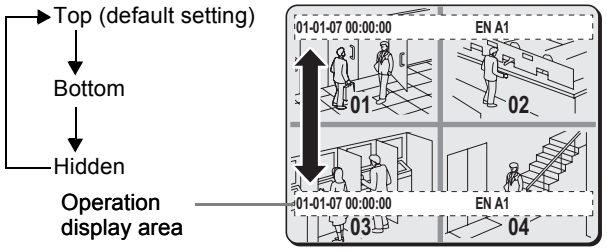


Changing the display position of the operation display area

1 Press the [EXIT/OSD] button.

EXIT/OSD

Each time the [EXIT/OSD] button is pressed, the operation display moves to a different location or is hidden.



Changing the language

The language displayed on the monitor can be changed.

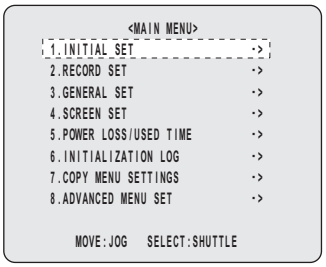
[Settings] (◆ indicates default setting)

Item	Setting	Description
LANGUAGE	◆ENGLISH	Sets the language to English.
	FRANCAIS	Sets the language to French.
	DEUTSCH	Sets the language to German.
	ESPAÑOL	Sets the language to Spanish.

1 Press the [MENU] button.

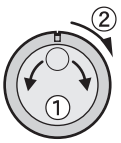
The MENU indicator lights up and the <MAIN MENU> is displayed.

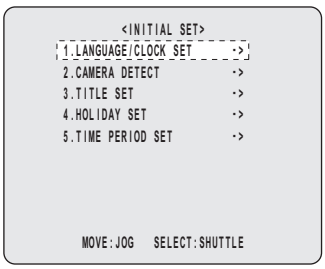
MENU



2 Turn the jog dial to select "1.INITIAL SET" and then turn the shuttle dial clockwise.

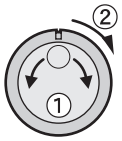
The <INITIAL SET> screen is displayed.

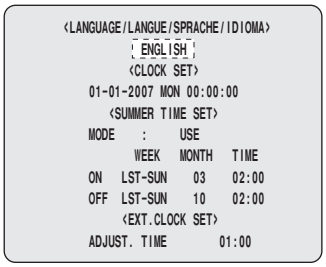




3 Turn the jog dial to select "1.LANGUAGE/CLOCK SET" and then turn the shuttle dial clockwise.

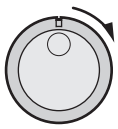
The <LANGUAGE/LANGUE/SPRACHE/IDIOMA> screen is displayed.





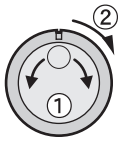
4 Turn the shuttle dial clockwise.

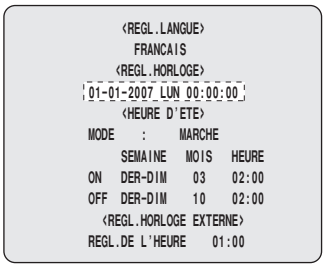
"ENGLISH" flashes.



5 Turn the jog dial to select the language and then turn the shuttle dial clockwise.

The language is selected and the cursor moves to the next item.





6 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

EXIT/OSD

Setting the time

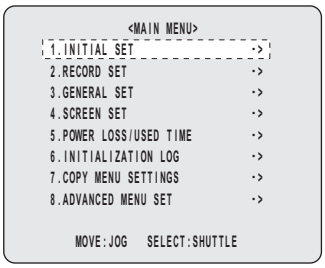
(Default setting: 01-01-2007 MON 00:00:00)
Be sure to set the correct date and time as these settings are used during playback and searching.

Example: Setting 8:30 on 26 January, 2007.

1 Press the [MENU] button.

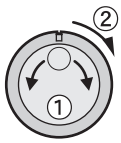
The MENU indicator lights up and the <MAIN MENU> is displayed.

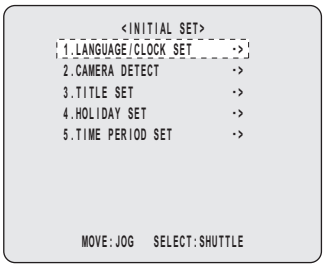
MENU



2 Turn the jog dial to select "1.INITIAL SET" and then turn the shuttle dial clockwise.

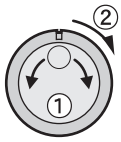
The <INITIAL SET> screen is displayed.

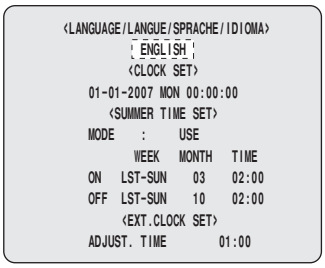




3 Turn the jog dial to select "1.LANGUAGE/CLOCK SET" and then turn the shuttle dial clockwise.

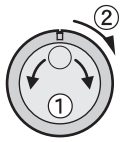
The <LANGUAGE/LANGUE/SPRACHE/IDIOMA> screen is displayed.

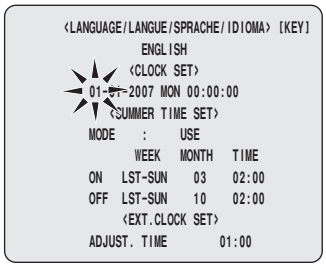




4 Turn the jog dial to select “01” and then turn the shuttle dial clockwise.

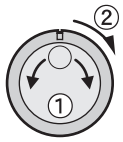
“01” flashes (indicating the day).





5 Turn the jog dial to select “26” and then turn the shuttle dial clockwise.

The day is set to “26” and the month “01” flashes.



6 Use the same procedure to set the month (01), year (2007), hour (08) and minute (30).

When the minutes are set, the cursor moves to the next item.

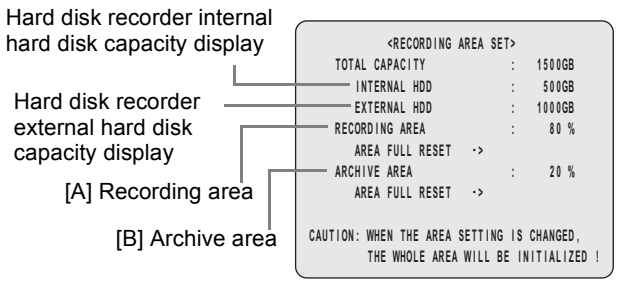
- The day of the week is set automatically.
- The clock stops during date and time settings.
- The clock starts counting from 00 seconds.

7 Press the [EXIT/OSD] button.

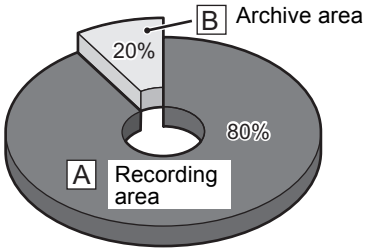
The setting is completed and the display returns to the normal screen.

Hard disk archive area

The hard disk contains a recording area and an archive area. Refer to P.82 for operations.


Hard disk recorder internal hard disk capacity display
Hard disk recorder external hard disk capacity display
[A] Recording area
[B] Archive area
‹RECORDING AREA SET›
TOTAL CAPACITY : 1500GB
INTERNAL HDD : 500GB
EXTERNAL HDD : 1000GB
RECORDING AREA : 80 %
AREA FULL RESET ->
ARCHIVE AREA : 20 %
AREA FULL RESET ->
CAUTION: WHEN THE AREA SETTING IS CHANGED,
THE WHOLE AREA WILL BE INITIALIZED !

Hard disk recording areas



[A] Recording area

Recording mode	Recording method	
Normal recording	Manual	When monitoring, recording is performed by pressing the [REC/STOP] button.
Timer recording	Automatic	Recording is carried out in accordance with timer settings.
Alarm recording	Automatic	Recording is carried out when alarm recording is set to “ENABLED”. Alarm images are recorded in response to either the operation of a switch connected to an ALARM IN terminal or to the detection of an intruder via motion sensors.
Pre-alarm recording	Automatic	When pre-alarm recording is set to “ON”, it is possible to record video from before the occurrence of an alarm based on the corresponding settings.

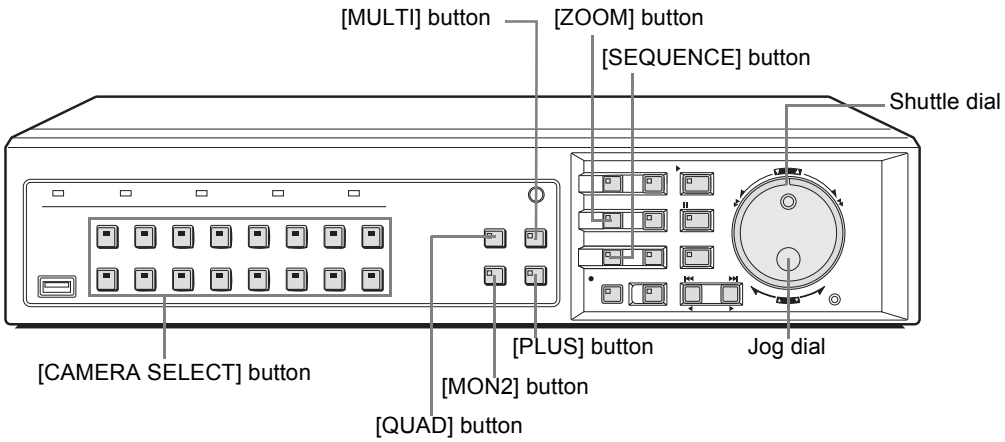
[B] Archive area

Recording mode	Recording method	
Copy	Manual or Automatic	This area is used to store important video data copied from the normal recording area and/or alarm recording area. Changes can be made to the recording area to determine the capacity. (1% - 99%)

CAUTION

- If the memory allocations for the hard disk recording areas are changed after recording, all stored recordings are deleted and the hard disk is initialized; accordingly, special care should be taken. (→P.82)
- The total hard disk capacity displayed on the menu screen may differ from the actual hard disk capacity.

2 MONITORING VIDEO FROM A CAMERA

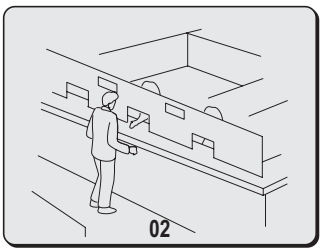


Viewing on a full screen

Example: Selecting Camera 2

1 Press the No. 2 [CAMERA SELECT] button.

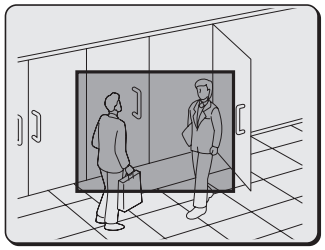
The CAMERA SELECT indicator lights up and video from Camera 2 is displayed on a full screen.



Viewing enlarged live images

1 Press the [ZOOM] button during monitoring of camera video.

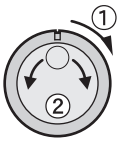
Press the button corresponding to the camera for which video is being magnified.
The ZOOM indicator lights up and a blue zoom frame appears in the center of the screen.



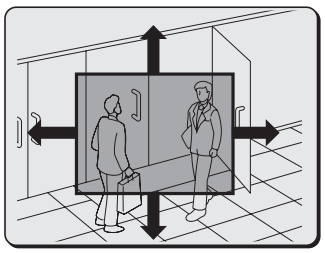
2 Move the zoom frame to the area to be magnified.

- Turn the jog dial to move the zoom frame to the left or right.

- Turn the shuttle dial clockwise and then turn the jog dial to move the zoom frame vertically.

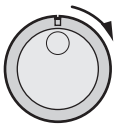


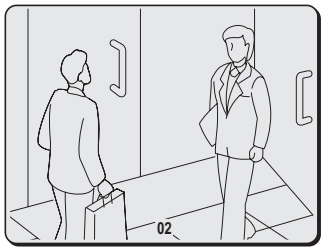
Move the zoom frame to the area to be magnified.



3 Turn the shuttle dial clockwise.

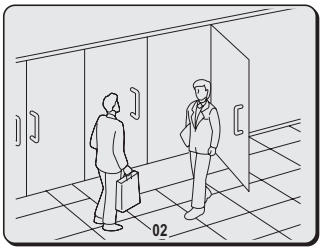
The area enclosed by the zoom frame is magnified (by a factor of 2).





4 Press the [ZOOM] button to return to normal magnification.

Magnification is cancelled and the display returns to the normal screen.
The ZOOM indicator turns off.



CAUTION

- Magnified video has a slightly coarser appearance when compared with normal video.

NOTE

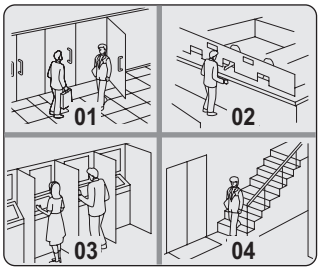
- Images cannot be enlarged in multi-screen format.

Viewing on quad screens

Images from multiple connected cameras can be displayed simultaneously.

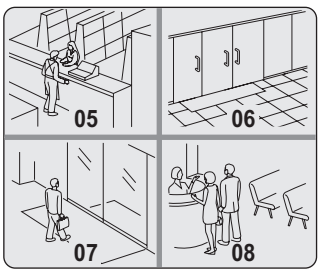
1 Press the [QUAD] button.

The QUAD indicator lights up and video from four separate cameras is displayed simultaneously.
Video from Camera No. 1 through Camera No. 4 is initially displayed.

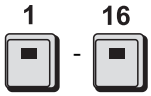


2 To view video from other cameras, press the [QUAD] button again.

Each time this button is pressed, the four images on the quad screen change, in order of cameras No. 1-4, 5-8, 9-12 and 13-16 (default setting).
On the DSR-5709P, the images change in order of cameras No. 1-4, 5-8, 9-3, etc.



3 To return to full screen display, press a [CAMERA SELECT] button.

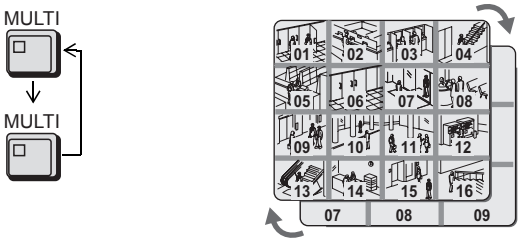


On the DSR-5709P, press the [CAMERA SELECT] 1-9 button.

Viewing on multi 9 or multi 16 screens

1 Press the [MULTI] button.

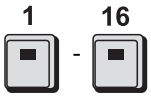
The MULTI indicator lights up and video from 16 separate cameras is displayed simultaneously. Press the [MULTI] button again to display multi 9 screens.
The DSR-5709P can only display video from nine cameras.



NOTE

- In the case of both quad and multi 9/16 screen display, you can change the positions in which video from the various cameras is displayed. (→P.132)

2 To return to full screen display, press a [CAMERA SELECT] button.



On the DSR-5709P, press the [CAMERA SELECT] 1-9 button.

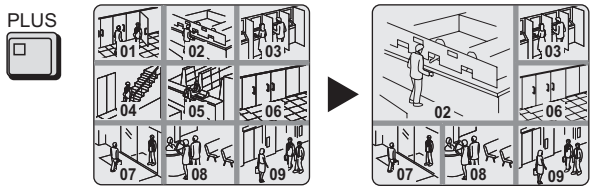
Enlarging video

Enlarges the video from a single camera to quad screen size during multi 9 or multi 16 screen display. (enlarged video)
In addition, video can also be enlarged during full screen and quad screen displays.
For DSR-5709P, this operation is available when in multi 9, quad and full screen display.

Example: Enlarging video during multi 9 screen display

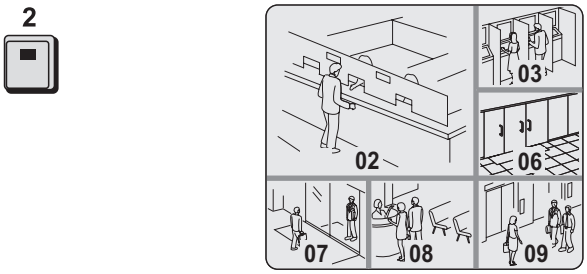
1 Press the [PLUS] button during multi 9 screen display.

The PLUS indicator lights up and the video from one camera is enlarged.

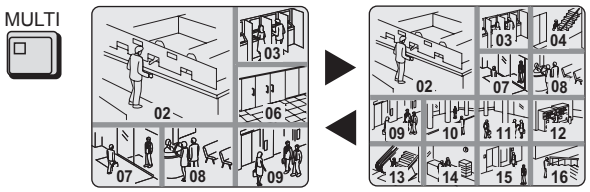


2 Press a [CAMERA SELECT] button.

The video from the selected camera is enlarged.



3 Press the [MULTI] button during plus screen display to change display.



4 Press the [PLUS] button to return to the screen from before enlarging video.

Automatic camera selection

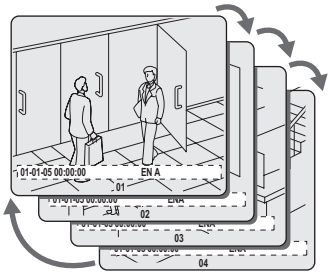
Setting automatic full screen selection

The camera video on a full screen can be changed automatically based on the camera number.

1 Press the [SEQUENCE] button.

The SEQUENCE indicator flashes and the displayed video changes automatically based on the camera number.
The current camera number indicator lights sequentially.

SEQUENCE



NOTE

- It is possible to specify the cameras for which automatic selection is to be carried out. (→P.73)

2 Press the [SEQUENCE] button to end automatic selection.

Automatic selection ends and the display returns to the normal screen.

- Pressing a [CAMERA SELECT] button, the [QUAD] button, the [MULTI] button or [PLUS] button also ends automatic selection.

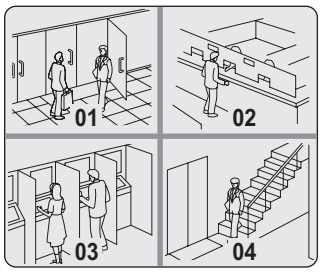
SEQUENCE

Setting automatic quad-screen selection

1 Press the [QUAD] button.

The QUAD indicator lights up and video from four separate cameras is displayed simultaneously.

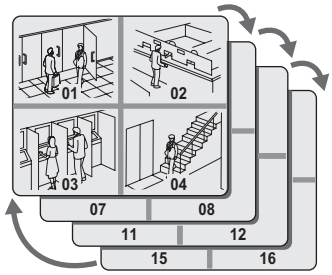
QUAD



2 Press the [SEQUENCE] button.

The four images on the quad screen automatically change in order of cameras No. 1-4, 5-8, 9-12 and 13-16.
On the DSR-5709P, the video changes automatically in order of cameras No. 1-4, 5-8, 9-3, etc.

SEQUENCE



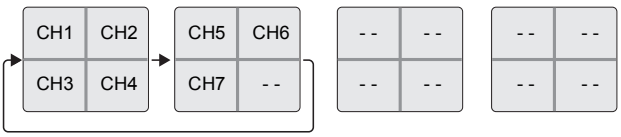
3 Press the [SEQUENCE] button to return to normal quad-screen display.

Automatic selection ends and the display returns to the normal quad-screen.
Pressing the following buttons displays the respective screens:
[CAMERA SELECT] → Full screen; [QUAD] → Quad screen; [MULTI] → Multi screen; [PLUS] → Plus screen

SEQUENCE

CAUTION

- If all channels in a quad screen are not set yet in the <SCREEN SET> screen, the screen is excluded from the display change sequence in the SEQUENCE operation.



- Automatic selection cannot be used with playback video.

Viewing on monitor 2

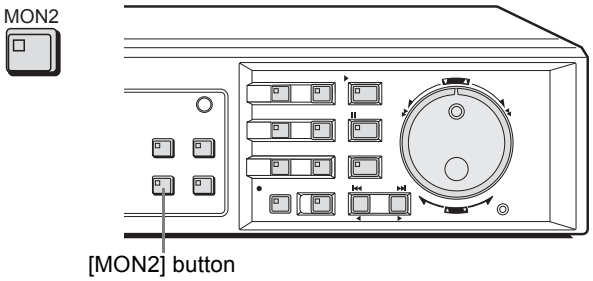
If you connect a monitor to the MON2 output terminal on the rear panel of the digital video recorder, you can view video in quad-screen and allow the screen to change automatically regardless of the display status on the main monitor. In addition, it is also possible to display video on monitor 2 automatically from any camera for which an alarm has occurred. By default, automatic full screen selection is performed.
Use the [MON2] button to change the monitor 2 setting.

CAUTION

- The playback image cannot be viewed on Monitor 2.

1 Press the [MON2] button.

The MON2 indicator lights up.



CAUTION

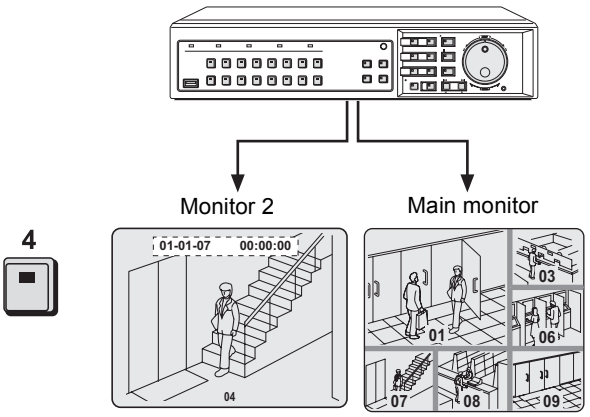
- Monitor 2 is not available while a menu screen is being displayed, search menu is being operated or camera is being controlled.

Viewing on a full screen

Example: Selecting Camera 4

2 Press the No. 4 [CAMERA SELECT] button.

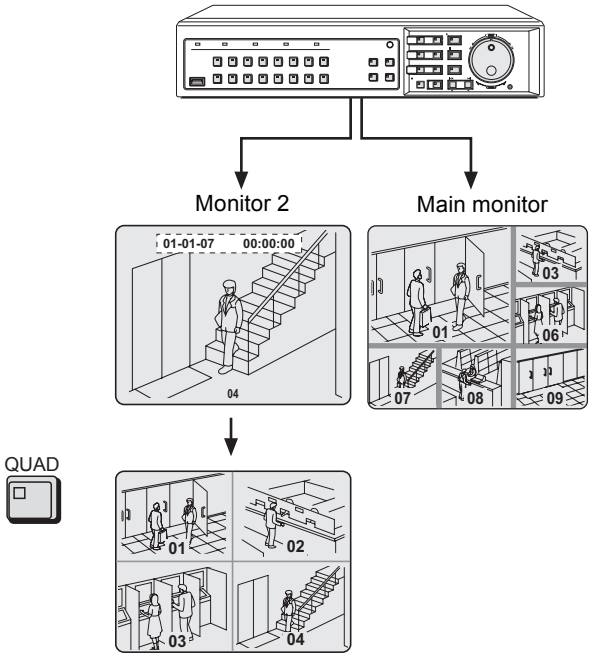
The video from Camera No. 4 is displayed in full screen on monitor 2.



Viewing on a quad screen

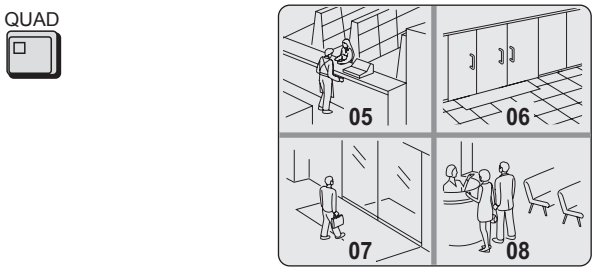
2 Press the [QUAD] button.

The video from cameras No. 1 through 4 is displayed in quad screen on monitor 2.

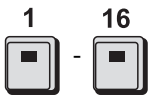


3 To view video from another camera, press the [QUAD] button again.

Each time this button is pressed, the four images on the quad screen change, in order of cameras No. 1-4, 5-8, 9-12 and 13-16.
On the DSR-5709P, the images change in order of cameras No. 1-4, 5-8, 9-3, etc.



4 To return to full screen display, press a [CAMERA SELECT] button.

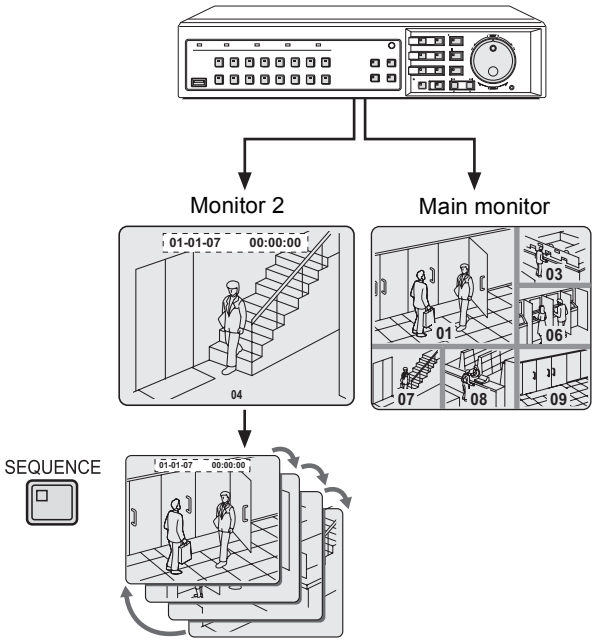


On the DSR-5709P, press the [CAMERA SELECT] 1-9 button.

Setting automatic full screen selection

2 Press the [SEQUENCE] button.

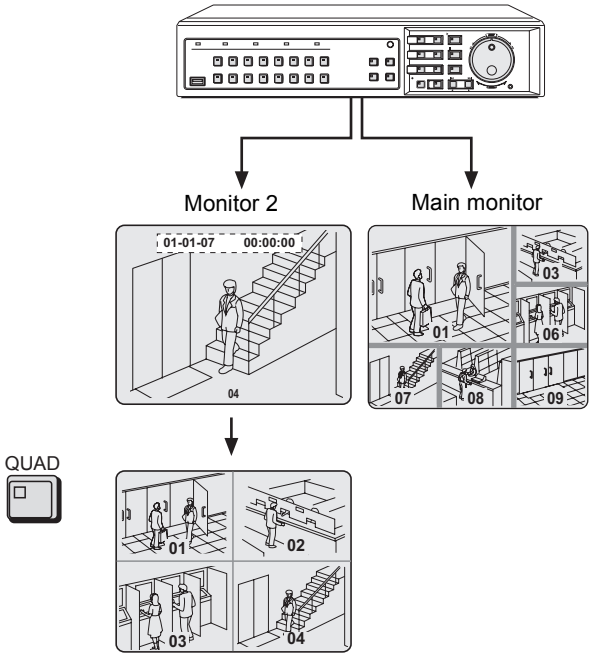
The video displayed on monitor 2 changes automatically.
Press the [SEQUENCE] button once again to cancel automatic selection.
Even if the [CAMERA SELECT] or [QUAD] button are pressed, automatic selection is cancelled.



Setting automatic quad-screen selection

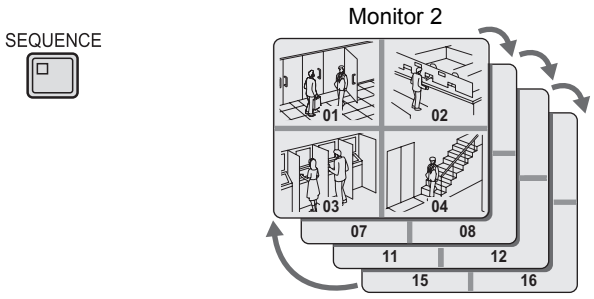
2 Press the [QUAD] button.

The video from the cameras is displayed in quad screen on monitor 2.



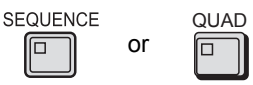
3 Press the [SEQUENCE] button.

The four images of the quad screen on monitor 2 automatically change in order of cameras No. 1-4, 5-8, 9-12 and 13-16.
On the DSR-5709P, the video changes automatically in order of cameras No. 1-4, 5-8, 9-3, etc.



4 Press the [SEQUENCE] or [QUAD] button to return to normal quad-screen display.

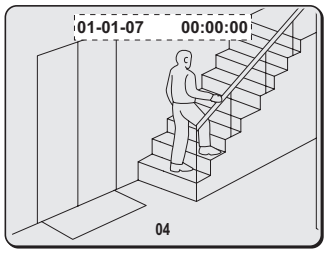
Automatic selection ends and normal quad-screen display returns.



Displaying alarm video in full screen format

2 Set “MON.2 DISPLAY” from the <ALARM OPERATION SET> screen to “SWITCH”, “LAST” or “FIRST”. (→P.108)

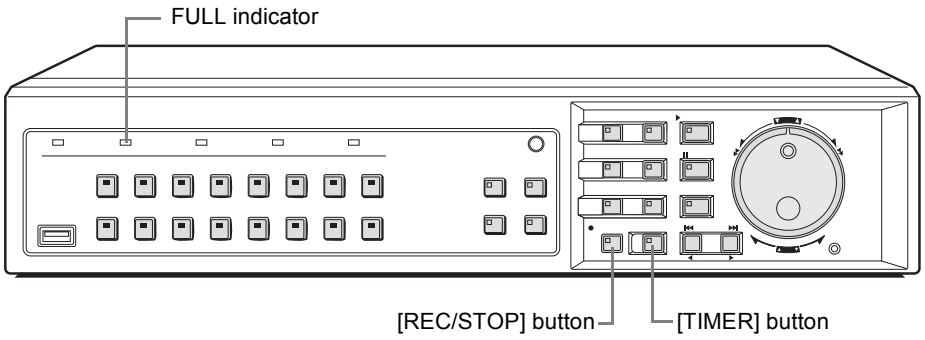
When an alarm occurs, the corresponding video is displayed in full screen on monitor 2.



3 Press the [MON2] button to end the monitor 2 setting procedure.

The MON2 indicator turns off.

MON2



Normal recording

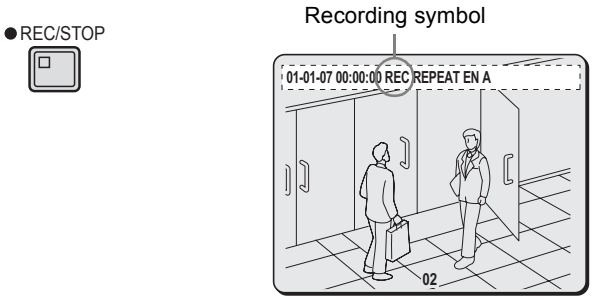
Use the following procedure to record monitored video.

CAUTION

- Be sure to set the time when using the digital video recorder for the first time. Recording is not possible until the time is set. (→P.20)

1 Press the [REC/STOP] button.

The REC/STOP indicator lights up, “REC” (i.e., the recording symbol) appears in the operation display and recording starts.



NOTE

- When recording for the first time, the default settings are used. (→P.88)
- When “OVERWRITE” on the <RECORDING CONDITIONS SET> screen is set to “OFF” and the space remaining in the recording area becomes insufficient, the FULL indicator begins to flash. If recording is continued beyond this point, the recording area becomes full and recording stops. Perform AREA FULL RESET to enable recording. (→P.84)
- Playback is possible even while recording. (→P.18)

2 Press and hold the [REC/STOP] button for approximately 3 seconds to end normal recording.

“REC” disappears from the operation display and recording ends.

Timer recording

Use the following procedure to record monitored video for a preset length of time.

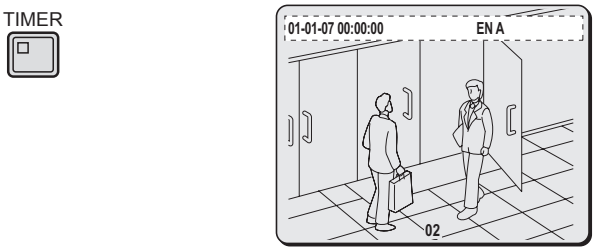
CAUTION

- Be sure to set the time when using the digital video recorder for the first time. Recording is not possible until the time is set. (→P.20)

1 Set timer recording. (→P.92)

2 Press the [TIMER] button.

The TIMER indicator lights up and the digital video recorder enters timer recording standby mode.



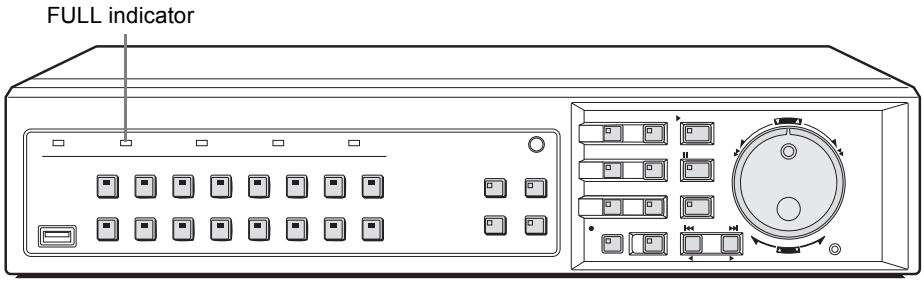
- At the time specified for the start of timer recording, the REC/STOP indicator lights up, “REC” (i.e., the recording symbol) appears in the operation display and recording starts.
- At the time specified for the end of timer recording, the REC/STOP indicator turns off and recording ends. The TIMER indicator remains lit. If the [TIMER] button is pressed, the TIMER indicator turns off.

NOTE

- When “OVERWRITE” on the <RECORDING CONDITIONS SET> screen is set to “OFF” and the space remaining in the recording area becomes insufficient, the FULL indicator begins to flash. If recording is continued beyond this point, the recording area becomes full and recording stops. Perform AREA FULL RESET to enable recording. (→P.84)
- Playback is possible even while recording.

3 Press the [TIMER] button to end timer recording before the end time.

The TIMER indicator turns off and recording ends.



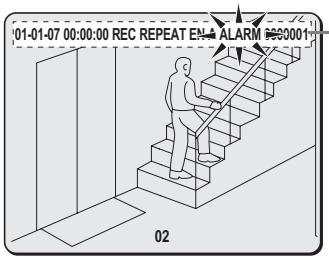
Alarm recording

Use the following procedure to record alarm video when an alarm signal is detected.

1 Set alarm recording. (→P.98)

2 When an alarm signal is detected

- When an alarm signal is detected, “ALARM” flashes in the operation display and alarm recording starts (indicated by “REC”.)
- Whenever an alarm occurs, the number of alarms indicated in the operation display is incremented.



Counts the number of alarms.
Displays up to 9999999.
After 9999999, the counter returns to 0000000 and resumes counting from 1.

- If an alarm occurs during normal recording or timer recording, recording ends.
- A maximum of 1,000,000 alarm recordings can be made on one hard disk. The number of maximum recordings can be increased to 6,000,000 by expanding the optional hard disk. However, the maximum number of recordings is affected by set recording conditions. Be sure to check the menu settings and display content.

3 End alarm recording.

When the alarm duration has expired (default setting: 20 seconds), both “REC” and “ALARM” stop flashing on the operation display and recording stops.

CAUTION

- Be sure to set the time when using the digital video recorder for the first time. Recording is not possible until the time is set. (→P.20)
- When alarm recording total exceeds 1,000,000 and “OVERWRITE” on the <RECORDING CONDITIONS SET> screen (→P.85) is set to “ON”, older recordings are overwritten even if the hard disk has remaining memory capacity.
  Alarm recording is not performed when “OFF” is set.

NOTE

- When “OVERWRITE” on the <RECORDING CONDITIONS SET> screen is set to “OFF” and the space remaining in the recording area becomes insufficient, the FULL indicator begins to flash. If recording is continued beyond this point, the recording area becomes full and recording stops. Perform AREA FULL RESET to enable recording. (→P.84)

Pre-alarm recording

Use the following procedure to record video immediately before the occurrence of an alarm.

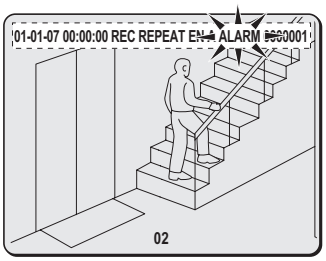
1 Set pre-alarm recording. (→P.102)

“PRE” appears in the operation display. Pre-alarm recording starts (without the “REC” symbol being displayed).

2 If an alarm is detected

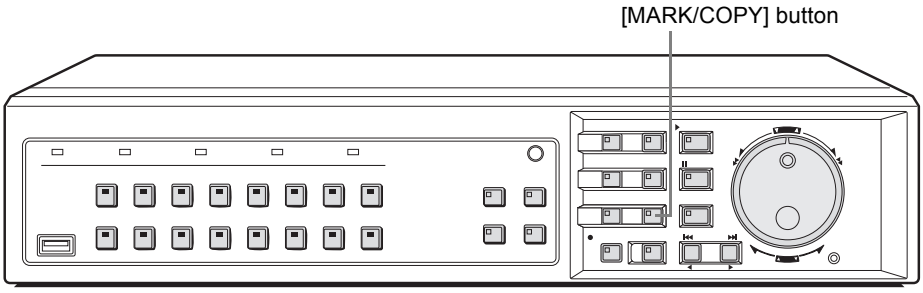
Pre-alarm recording is automatically ended and alarm recording starts.

- “PRE” disappears from the operation display and “ALARM” begins to flash.



NOTE

- When recording for the first time, the default settings are used. The image quality and recording rate can be changed. (→P.103)
- When “OVERWRITE” on the <RECORDING CONDITIONS SET> screen is set to “OFF” and the space remaining in the recording area becomes insufficient, the FULL indicator begins to flash. If recording is continued beyond this point, the recording area becomes full and recording stops. Perform AREA FULL RESET to enable recording. (→P.84)



Bookmarking video while recording

You can bookmark any video images while recording so that you may easily search for them afterward for playback from the bookmark list. (→P.84)
Bookmarking can be performed on full, quad and multi screens.

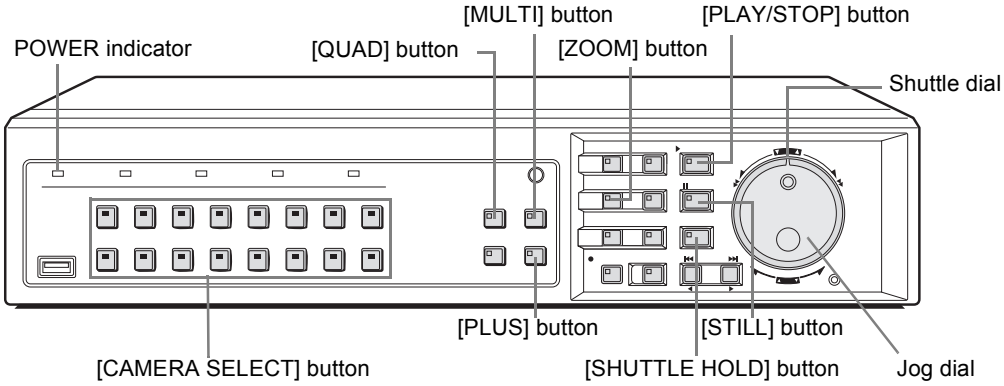
1 Press the [MARK/COPY] button while recording video.

The “BOOKMARK SUCCESS!” message is displayed, and the recording point when the button is pressed is registered in the bookmark list.

NOTE

- You can register up to 64 bookmarks. If the limit is exceeded, data is renewed by writing over from the oldest bookmark.

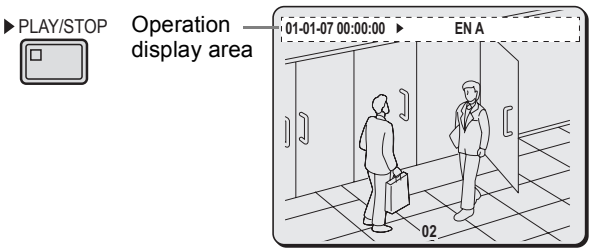
Use the following procedure to play normal or timer recording video stored in the hard disk.



Playing video on a full screen

1 Press the [CAMERA SELECT] button for the camera to play and then press the [PLAY/STOP] button.

The PLAY/STOP indicator lights up and ▶ appears in the operation display. Normal or timer recording video is played back. To view video from another camera, press the [CAMERA SELECT] button of the desired camera.



NOTE

- Video playback begins at the playback point where the previous recording ended.
- If the playback point has been reset, video playback begins from the earliest recording.
- If playback is stopped, the playback point is reset and playback resumes from that point when the [PLAY/STOP] button is next pressed.
- When playback ends, the operating display automatically indicates that playback is paused (⏸) and the STILL indicator lights up.
- Playback video and audio may not be in sync. In this case, press the [PLAY/STOP] button and play back again.

2 Press the [PLAY/STOP] button to end playback.

Playback ends.

■ Playing video near the point of recording

The digital video recorder priorities recording operations, and as a result, video playback may pause temporarily.

Fast-forward and fast-rewind playback

1 Turn the shuttle dial clockwise or counter-clockwise during video playback.

Turn the shuttle dial to use fast-forward and fast-rewind playback.
When turned clockwise, ▶▶ appears in the operation display and fast-forward playback begins.
When turned counter-clockwise, ◀◀ appears in the operation display and fast-rewind playback begins.
Fast-forward and fast-rewind speed increase the more the shuttle dial is turned.
Return the shuttle dial to continue normal playback.

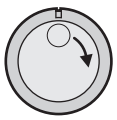
NOTE

- Press the [SHUTTLE HOLD] button while either ◀◀ or ▶▶ is displayed to fix the speed of fast-forward or fast-rewind playback without having to hold the shuttle dial. Press the [SHUTTLE HOLD] button again to continue normal playback.

Changing the playback speed

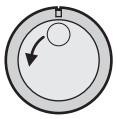
Starting fast-forward or slow playback

(1) Performing fast-forward.



When the jog dial is turned clockwise, fast-forward playback begins and ▶▶ appears in the operation display.
Fast-forward speed increases the more the jog dial is turned clockwise and decreases as it is returned.

(2) Performing slow playback.



When the jog dial is turned counter-clockwise, slow playback begins and ⏸▶ appears in the operation display.
Slow playback speed decreases the more the jog dial is turned counter-clockwise and increases as it is returned.

(3) Returning to normal playback.

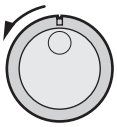
Press the [SHUTTLE HOLD] button while the SHUTTLE HOLD indicator is lit to release the lock status.
▶ is displayed in the operation display area when the jog dial is turned.

CAUTION

- Audio is not played during fast-forward, fast-rewind, slow, reverse-slow and reverse playback.

Using reverse playback, fast-rewind, and reverse-slow playback

(1) Performing reverse playback.



Turn the shuttle dial slightly counter-clockwise during playback to use reverse playback at normal speed. ◀ is displayed in the operation display area.

NOTE

- Press the [SHUTTLE HOLD] button while ◀ is displayed to fix the reverse playback speed without having to hold the shuttle dial.

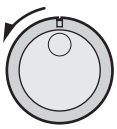
(2) Performing fast-rewind playback.

While in reverse playback, turn the jog dial counter-clockwise to use fast rewind. ◀◀ is displayed in the operation display area.
Fast-rewind speed increases the more the jog dial is turned counter-clockwise and decreases as it is returned.

(3) Performing reverse-slow playback.

While in reverse playback, turn the jog dial clockwise to use reverse slow playback. ◀II is displayed in the operation display area.
Reverse slow playback speed decreases the more the jog dial is turned clockwise and increases as it is returned.

(4) Returning to normal playback.

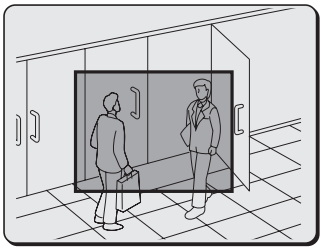


Press the [SHUTTLE HOLD] button while the SHUTTLE HOLD indicator is lit to release the lock status. ▶ is displayed in the operation display area when the jog dial is turned.

Magnifying the playback video

1 Press the [ZOOM] button during playback.

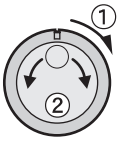
Press the button corresponding to the camera for which video is being magnified.
The ZOOM indicator lights up and a blue zoom frame appears in the center of the screen.



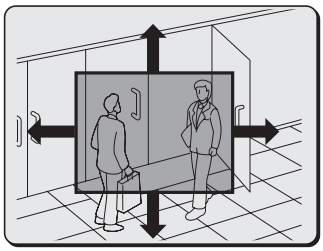
2 Move the zoom frame to the area to be magnified.

- Turn the jog dial to move the zoom frame to the left or right.

- Turn the shuttle dial clockwise and then turn the jog dial to move the zoom frame vertically.

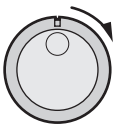


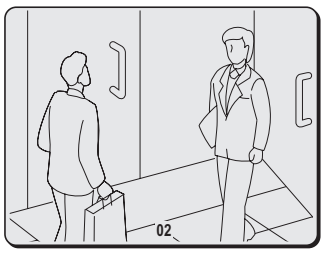
Move the zoom frame to the area to be magnified.



3 Turn the shuttle dial clockwise.

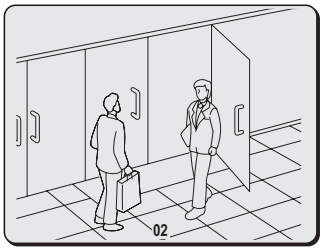
The area enclosed by the zoom frame is magnified (by a factor of 2).





4 Press the [ZOOM] button to return to normal magnification.

Magnification is cancelled and the display returns to the normal screen.
The ZOOM indicator turns off.



CAUTION

- Magnified video has a slightly coarser appearance when compared with normal video.

NOTE

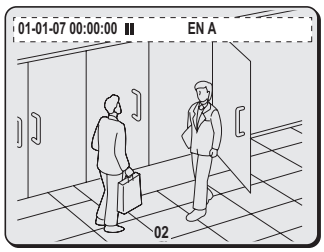
- Images cannot be enlarged in multi-screen format.
- If a [CAMERA SELECT] button is pressed or playback is stopped, magnification is cancelled.

Viewing still images

Pause playback and display still images.

1 Press the [STILL] button during playback.

The STILL indicator lights up and playback video is paused.
II appears in the operation display.



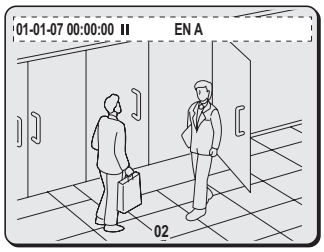
2 Press the [STILL] button again to resume normal playback.

Normal playback is resumes.

Frame advance (forward/reverse)

1 Turn the jog dial while playback is paused.

Clockwise: The still image is moved forward by one frame or field.
Counter-clockwise: The still image is moved back by one frame or field.



CAUTION

- If normal, fast-forward or fast-rewind playback is performed either for playback during alarm recording or for continuous playback from the normal recording area and alarm recording area, the image may appear to pause in certain cases.

NOTE

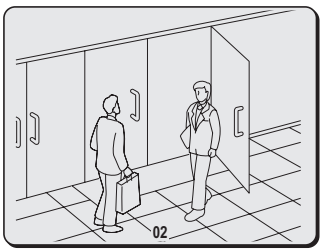
- The jog dial can be turned to increase the speed of frame advance.

Bookmarking video while playing

You can bookmark any video images during playback so that you may easily search for them afterward for playback from the bookmark list. (→P.50)

1 Press the [MARK/COPY] button during playback on a full screen.

The “BOOKMARK SUCCESS!” message is displayed, and the playback point of the video marked when the button is pressed is registered in the bookmark list.



NOTE

- You can register up to 64 bookmarks. If the limit is exceeded, data is renewed by writing over from the oldest bookmark.

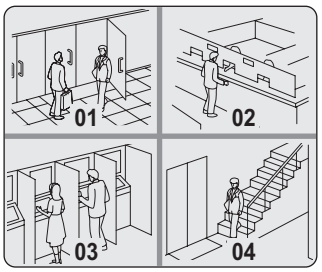
Playing video on multiple screens

When recording video from a number of different cameras, the following procedures can be used to play the recorded video in multi-screen format.

Playing video on quad screens

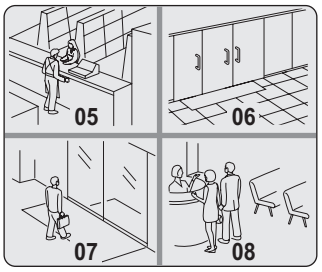
1 Press the [QUAD] button during playback.

The QUAD indicator lights up and video from four separate cameras is displayed simultaneously.

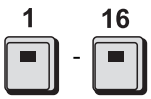


2 To view video from other cameras, press the [QUAD] button again.

Each time this button is pressed, the four images on the quad screen change, in order of cameras No. 1-4, 5-8, 9-12 and 13-16.
On the DSR-5709P, the images change in order of cameras No. 1-4, 5-8, 9-3, etc.



3 To return to full screen display, press a [CAMERA SELECT] button.

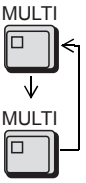


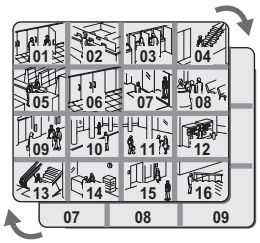
On the DSR-5709P, press the [CAMERA SELECT] 1-9 button.

Playing video on multi 9 or multi 16 screens

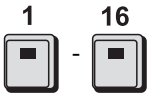
1 Press the [MULTI] button during playback.

The MULTI indicator lights up and video from 16 separate cameras is displayed simultaneously. Press the [MULTI] button again to display multi 9 screens.
The DSR-5709P can only display video from nine cameras.





2 To return to full screen display, press a [CAMERA SELECT] button.



On the DSR-5709P, press the [CAMERA SELECT] 1-9 button.

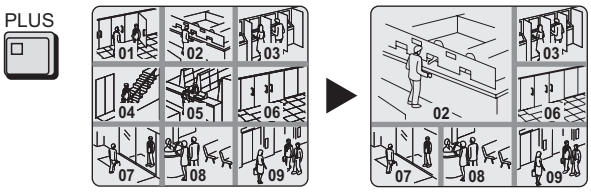
NOTE

- In the case of both quad and multi 9/16 screen display, you can change the positions in which playback video from the various cameras is displayed. (→P.132)

Playing enlarged video

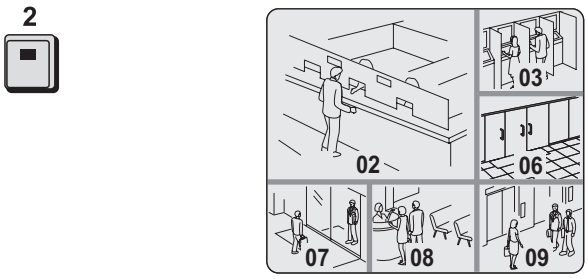
1 Press the [PLUS] button during playing video on full, quad, multi 9 or multi 16 screens.

On the DSR-5709P, press the button on full, quad or multi 9 screens.
The PLUS indicator lights up and one camera image is enlarged.

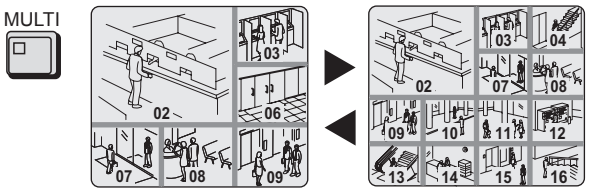


2 Press a [CAMERA SELECT] button.

Example: Select Camera No. 2.
The selected camera image is enlarged.



3 Press the [MULTI] button during plus screen display to change display.



On the DSR-5709P, pressing the [MULTI] button does not change the display.

4 Press the [PLUS] button during plus screen display to leave the enlarged camera image as is and to switch to monitoring video (live image) for other camera numbers.

5 Press the [PLUS] button to return to the screen from before enlarging video.

NOTE

- When playing back all videos, “PLUS” is displayed for channels that are played back in enlarging video.

Using flash playback

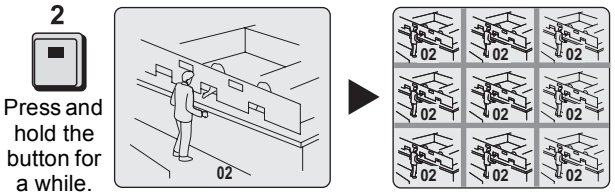
By using this function, you can play back video images of any single camera on nine screens in proper time sequence. This is especially useful when you need to confirm the stream of video images, as the function provides a series of nine images that are successively refreshed.

1 Play video from the camera you want to view using flash playback, on a full screen.

2 Press and hold for a while the [CAMERA SELECT] button corresponding to the number of the camera being played back.

The full screen changes to multi 9 screens and flash playback is started.

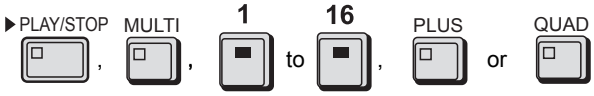
Example: Selecting camera #2 for flash playback.

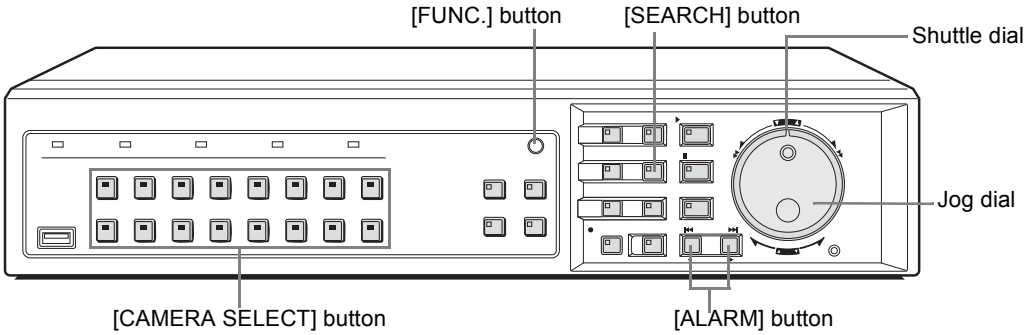


You can use fast-forward, fast-rewind and slow playbacks during flash playback.

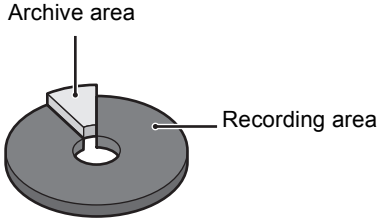
3 To stop flash playback, press either the [PLAY/STOP], [MULTI], [CAMERA SELECT], [PLUS] or [QUAD] button.

Flash playback stops and the display returns to the normal full screen playback.

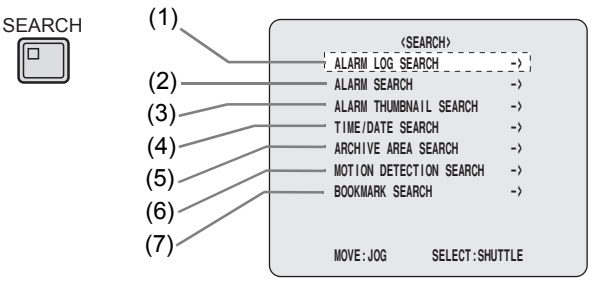




Video stored in the recording area or archive area can be located by searching and then played back. Use one of six search methods to locate the required video.



<SEARCH> screen

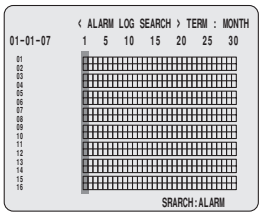


NOTE

- During playback, use the shuttle dial, jog dial or operation buttons to perform operations, such as to pause or fast-forward playback.
- When changes to menu settings and alarms coincide, two alarms may be set for the same alarm number to prioritize changes to menu settings.
- It may take more than one minute to search video depending on the size of the hard disk and/or stored data.
- With a video image specified in the list or with a thumbnail during [ALARM SEARCH], [ALARM THUMBNAIL SEARCH], [ARCHIVE AREA SEARCH] or [BOOKMARK SEARCH] operation pressing the [MARK/COPY] button brings up the copy setting screen, thereby enabling copy operation to be smoothly implemented.

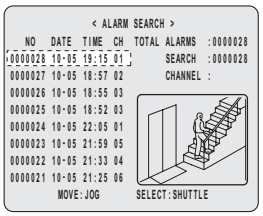
(1) ALARM LOG SEARCH (→P.38)

Search with reduced alarm image time.



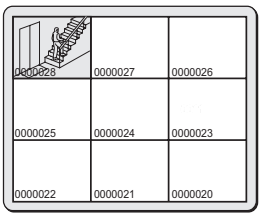
(2) ALARM SEARCH (→P.39)

Search and play back alarm video from the recording list. Search also by alarm or camera number.



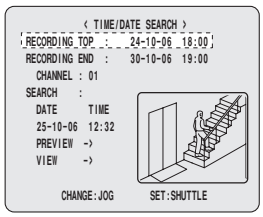
(3) ALARM THUMBNAIL SEARCH (→P.42)

Search and play back alarm video using a thumbnail list. Search also by alarm or camera number.



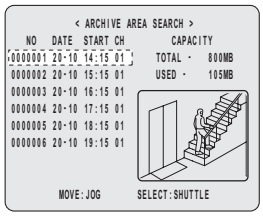
(4) TIME/DATE SEARCH (→P.44)

Search and play back recorded video by date and time.



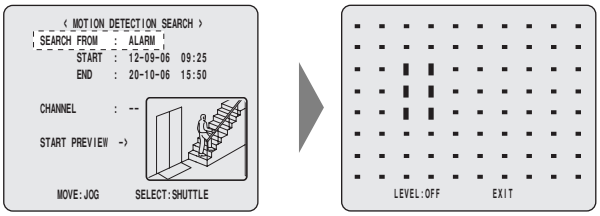
(5) ARCHIVE AREA SEARCH (→P.46)

Playback video that has been stored in the archive area. Search also by archive or camera number.



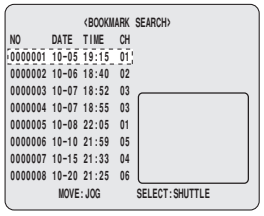
(6) MOTION DETECTION SEARCH (→P.47)

Search and play back video of moving objects detected by motion sensors.



(7) BOOKMARK SEARCH (→P.42)

Bookmarked video can be selected from the bookmark list for playback.
(The [BOOKMARK SEARCH] function is available only on the digital video recorder, and it cannot be used through network operation.)

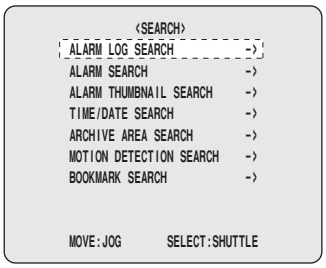


Alarm log search

Use the following procedure to perform an alarm search or alarm thumbnail search by defining the period (month, week, day or time) of the alarm recorded video.

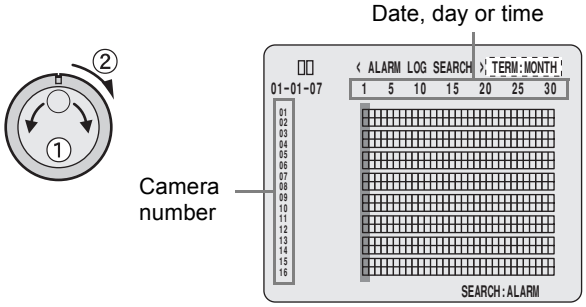
1 Press the [SEARCH] button while the digital video recorder is recording or stopped.

The SEARCH indicator lights up and the <SEARCH> screen is displayed.



2 Turn the jog dial to select "ALARM LOG SEARCH" and then turn the shuttle dial clockwise.

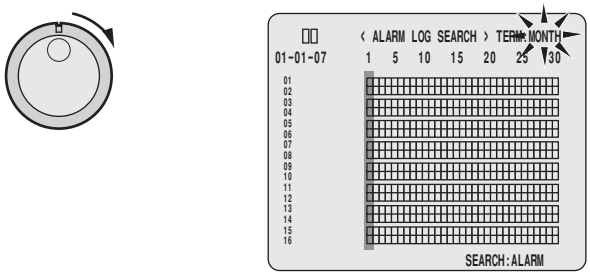
The <ALARM LOG SEARCH> screen is displayed.



On the DSR-5709P, cameras No. 01-09 are displayed.

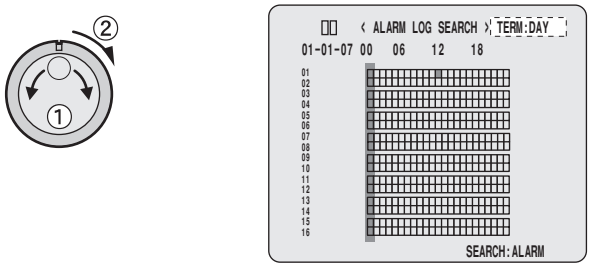
3 Turn the shuttle dial clockwise.

The "TERM" setting flashes.



4 Turn the jog dial to select "TERM" and then turn the shuttle dial clockwise.

The screen display changes to reflect the specified period.
Press the ⏮ or ⏭ [ALARM] button to change the month/week/date/time.



[Settings] (◆ indicates default setting)

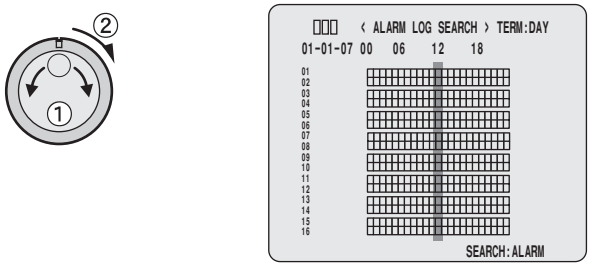
Setting	Description
◆MONTH	Displays one month.
WEEK	Displays one week.
DAY	Displays one day.
HOUR	Displays one hour.

5 Turn the jog dial to select the date, time or minute and then turn the shuttle dial clockwise.

The selected day (or hour or minutes) is indicated with a yellow frame.
Alarm recording areas are indicated in red and areas with no recordings in gray.
Reselecting the area cancels the original selected area.

■ To confirm normal recording

Press the [FUNC.] button for approximately 3 seconds to search for normal recording. A blue mark is displayed at the top left of the screen, and normally recorded parts are displayed in blue. (The search for normal recording may take some time.)
To abort the search, turn the shuttle dial counter-clockwise.



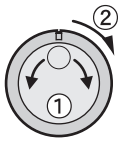
NOTE

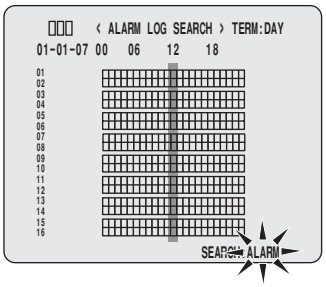
- If "MONTH" is selected in step 4 above, each frame represents one day. If "WEEK" is selected, four frames represent one day. If "DAY" is selected, each frame represent one hour. If "HOUR" is selected, each frame represents two minutes.

OPERATION

6 Turn the jog dial to select “SEARCH” and then turn the shuttle dial clockwise.

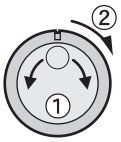
“ALARM” flashes.





7 Turn the jog dial to select “ALARM” or “THUMBNAIL” and then turn the shuttle dial clockwise.

Now perform alarm search (→P.39) or alarm thumbnail search (→P.42).



[Settings] (◆ indicates default setting)

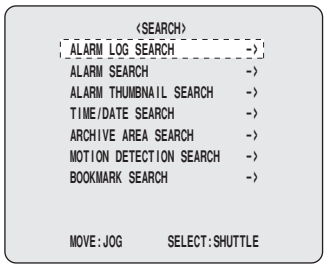
Setting	Description
◆ALARM	The <ALARM SEARCH> screen (→P.39) is displayed and the search results are displayed in a list.
THUMBNAIL	The <ALARM THUMBNAIL SEARCH> screen (→P.42) is displayed and the search results are displayed in a list.

Alarm search

Use the following procedure to search and play back alarm video. If pre-alarm video is being recorded, video from immediately before the alarm can also be played back.

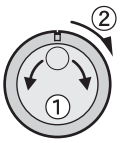
1 Press the [SEARCH] button while the digital video recorder is recording or stopped.

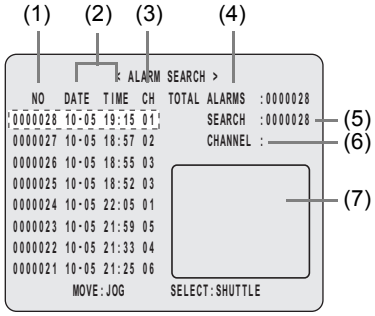
The SEARCH indicator lights up and the <SEARCH> screen is displayed.



2 Turn the jog dial to select “ALARM SEARCH” and then turn the shuttle dial clockwise.

The <ALARM SEARCH> screen is displayed.
This screen lists the eight most recent alarm recordings.





(1) NO:
Indicates the alarm number.

(2) DATE/TIME:
Indicates the date and time at which the alarm video was recorded.

(3) CH:
Indicates the alarm video’s channel (or camera number).

(4) TOTAL ALARMS:
Indicates the total number of alarm video recordings.

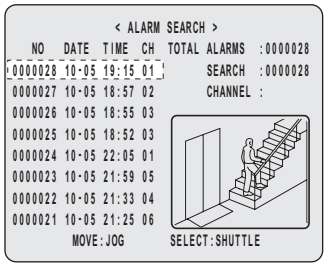
(5) SEARCH:
Search by specifying an alarm number. (→P.40)

(6) CHANNEL:
Search by specifying a camera number. (→P.41)

(7) Preview:
Displays the selected alarm video.

3 Turn the jog dial to select the video for playback from the list.

A preview of the selected alarm video is displayed in the preview screen. In this case, the video at the time the alarm occurred is displayed.



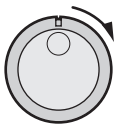
- **To display the next or previous recording**
  Turn the jog dial clockwise or counter-clockwise accordingly.
- Press the ▶▶I [ALARM] button to display the next eight recordings, and I◀◀ for the previous eight recordings.

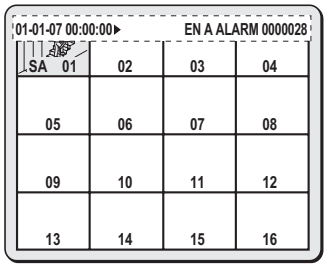
NOTE

- To switch to the copy setting screen
  Press the [MARK/COPY] button with a video specified in the list. (→P.52)
- To end search mode
  Press the [SEARCH] button. The SEARCH indicator turns off.

4 Turn the shuttle dial clockwise.

The selected recording is played back on multi 16 screens. Playback is also available for another camera image being recorded simultaneously.
On the DSR-5709P, the recording is played back on multi 9 screens.





NOTE

- When searching by specifying a camera number, playback is performed on a full screen.

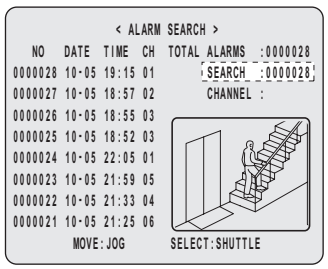
■ To view pre-alarm video

After beginning playback of an alarm video identified by an alarm search, use the shuttle dial to reverse playback.

Entering an alarm number to search for an alarm video

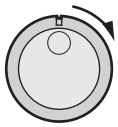
1 In the search screen, press the [FUNC.] button and select “SEARCH”.

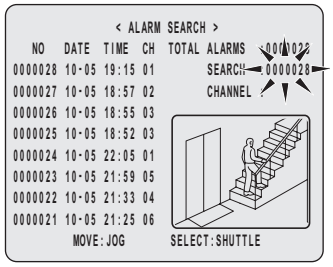
FUNC.



2 Turn the shuttle dial clockwise.

The “SEARCH” input field flashes.

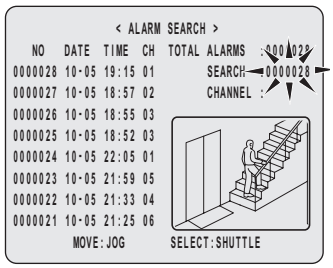




3 Turn the jog dial and shuttle dial to select an alarm number.

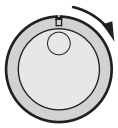
Turn the shuttle dial to move through the field and turn the jog dial to select individual numbers (0 through 9).

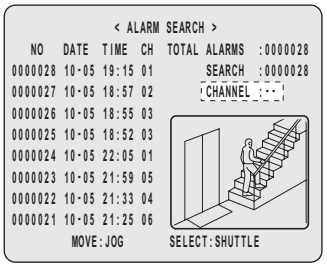
Numbers can be entered with the camera number 1-9 buttons or the [QUAD] button (0).



4 Turn the shuttle dial clockwise.

The alarm video with the specified number is displayed in the preview screen.
Image numbers before the selected number are displayed in a list on the left of the screen.

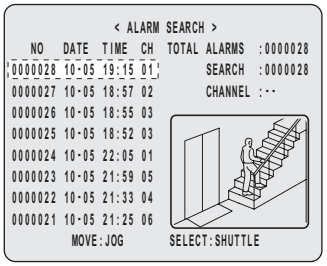




5 Press the [FUNC.] button.

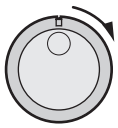
The cursor moves to the list.

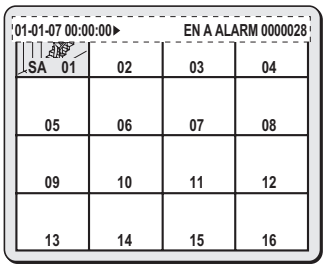
FUNC.



6 Turn the jog dial to select the alarm video for playback and then turn the shuttle dial clockwise.

The selected recording is played back on multi 16 screens.
Playback is also available for another camera image being recorded simultaneously.
On the DSR-5709P, the recording is played back on multi 9 screens.





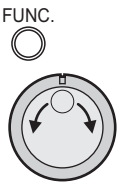
NOTE

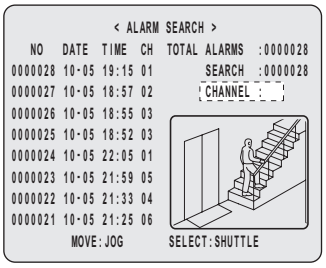
- When searching by specifying a camera number, playback is performed on a full screen.

Entering a camera number to search for an alarm video

1 In the search screen, press the [FUNC.] button and select “CHANNEL” with the jog dial.

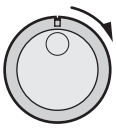
FUNC.

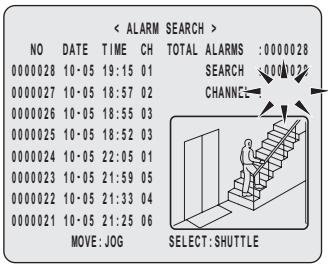




2 Turn the shuttle dial clockwise.

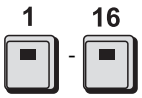
The “CHANNEL” input field flashes.

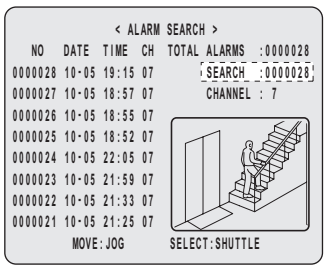




3 Press the [CAMERA SELECT] button for the camera number to search.

The alarm video with the specified number is displayed in the preview screen.

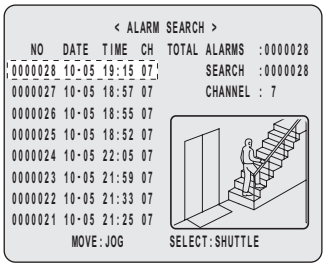




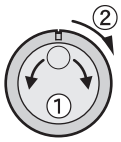
4 Press the [FUNC.] button.

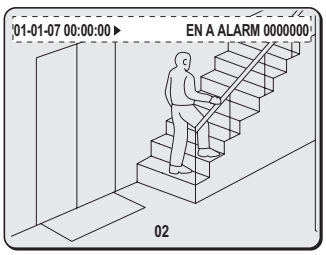
The cursor moves to the list.

FUNC.



5 Turn the jog dial to select the alarm video for playback and then turn the shuttle dial clockwise.

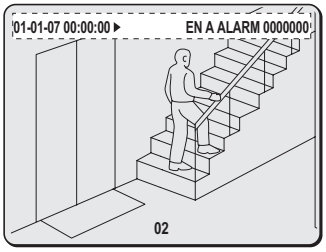




To view alarm video before or after the current playback

1 Press the [ALARM] button during playback.

⏮ ALARM ⏭



- Each time the ⏮ button is pressed, playback skips to the preceding alarm video.
- Each time the ⏭ button is pressed, playback skips to the subsequent alarm video.

NOTE

- When playback is performed after an alarm search, the frame at the start and end of each alarm recording is paused.
  Press the [ALARM] button to play the previous or next recording.
- Use the front-panel buttons, the shuttle dial and the jog dial to perform operations such as pause and fast-forward.

Alarm thumbnail search

Use the following procedure to select alarm videos in the recording area from a thumbnail list.

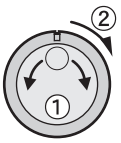
1 Press the [SEARCH] button while the digital video recorder is recording or stopped.

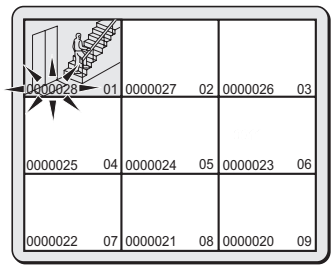
The SEARCH indicator lights up and the <SEARCH> screen is displayed.

SEARCH

2 Turn the jog dial to select "ALARM THUMBNAIL SEARCH" and then turn the shuttle dial clockwise.

The nine latest alarm video thumbnails are displayed.
An alarm number and camera number are indicated together with each alarm recording, and the number of the currently selected recording flashes.

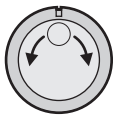


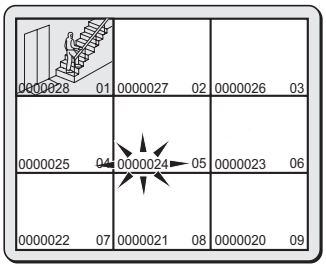


OPERATION

3 Turn the jog dial to select the video for playback.

The alarm number for the selected video flashes.





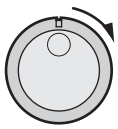
- To display the next or previous recording
  Turn the jog dial clockwise or counter-clockwise accordingly.
- Press the ▶▶I [ALARM] button to display the next nine recordings, and I◀◀ for the previous nine recordings.

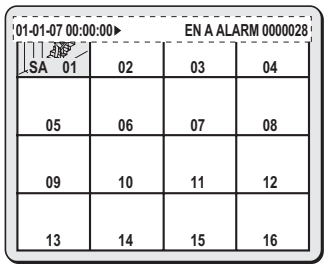
NOTE

- To switch to the copy setting screen
  Press the [MARK/COPY] button with a video specified in the list. (→P.52)
- To end search mode
  Press the [SEARCH] button. The SEARCH indicator turns off.

4 Turn the shuttle dial clockwise.

The selected recording is played back on multi 16 screens. Playback is also available for another camera image being recorded simultaneously.
On the DSR-5709P, the recording is played back on multi 9 screens.





CAUTION

- In the same way as for alarm searching, only alarm recordings can be played back. Press the [ALARM] button to play the previous or next recording.

NOTE

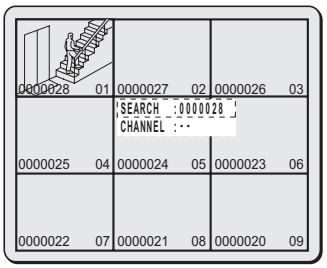
- When searching by specifying a camera number, playback is performed on a full screen. (→P.44)

Search by entering an alarm number

1 In the search screen, press the [FUNC.] button.

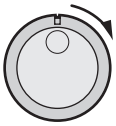
The “SEARCH” and “CHANNEL” input fields are displayed.

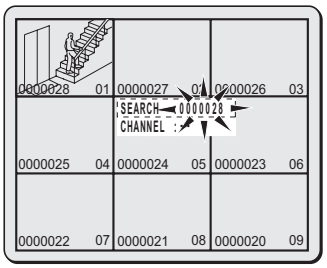
FUNC.



2 Turn the shuttle dial clockwise.

The “SEARCH” input field flashes.

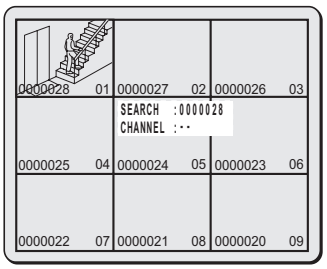




3 Select alarm number by turning the jog dial and shuttle dial.

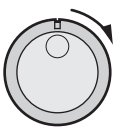
Move the unit place with the shuttle dial and select numbers 0-9 with the jog dial.

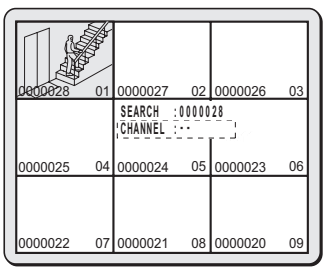
Numbers can be entered with the camera number 1-9 buttons or the [QUAD] button (0).



4 Turn the shuttle dial clockwise.

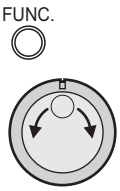
The specified number alarm is searched for and thumbnails are displayed.
Press the [FUNC.] button to cancel SEARCH and CHANNEL input fields.

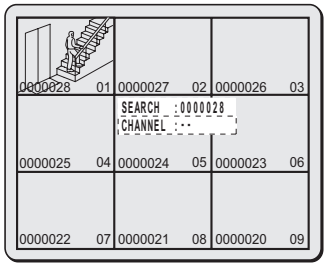




Search by entering a camera number

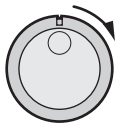
1 In the search screen, press the [FUNC.] button and select “CHANNEL” with the jog dial.

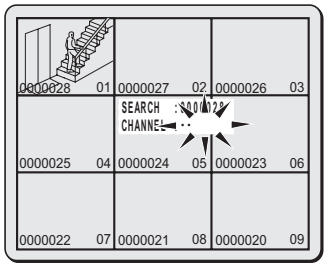




2 Turn the shuttle dial clockwise.

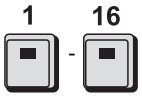
The “CHANNEL” input field flashes.

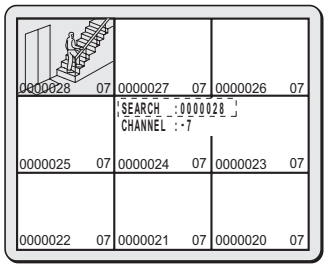




3 Press the [CAMERA SELECT] button for the camera number to search.

The specified camera number alarm is searched for and thumbnails are displayed.
Press the [FUNC.] button to cancel SEARCH and CHANNEL input fields.





4 Turn the shuttle dial clockwise.

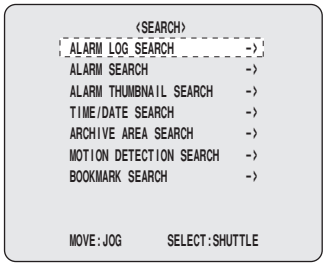
Time/date search

Search and play back video in the recording area (normal recording, timer recording, alarm recording) by specifying camera number, date, or time.

Example: To search for a recording from camera 5 from 8:30 pm on 26 October, 2006

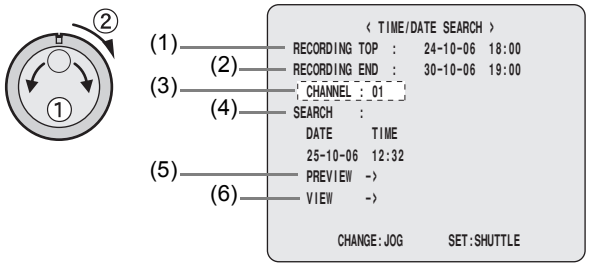
1 Press the [SEARCH] button while the digital video recorder is recording or stopped.

The SEARCH indicator lights up and the <SEARCH> screen is displayed.



2 Turn the jog dial to select “TIME/DATE SEARCH” and then turn the shuttle dial clockwise.

The <TIME/DATE SEARCH> screen is displayed.



(1) RECORDING TOP:
Indicates the date/time of the earliest video recording.

(2) RECORDING END:
Indicates the date/time of the most recent video recording.

(3) CHANNEL:
Input a camera number to search.

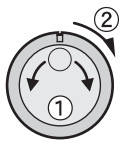
(4) SEARCH:
Input date and time to search.

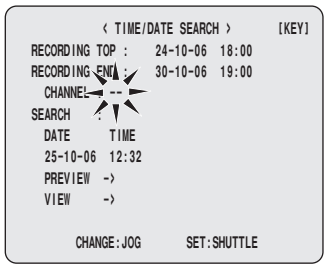
(5) PREVIEW:
Select this option and turn the shuttle dial clockwise to display the preview screen.

(6) VIEW:
Select this option and turn the shuttle dial clockwise to play the recording.

3 Turn the shuttle dial clockwise while “CHANNEL” is selected.

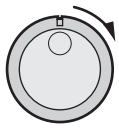
The “CHANNEL” input field flashes.

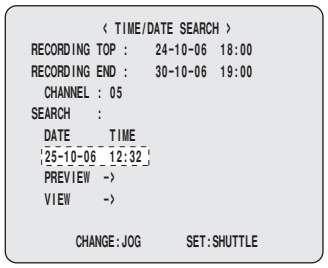




4 Press the [CAMERA SELECT] 5 button.

The cursor moves to “DATE TIME”.

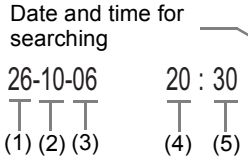


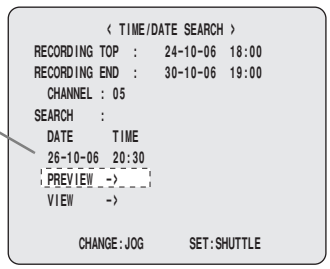


5 Specify the date and time.

(1) Turn the shuttle dial clockwise and turn the jog dial to “26” (day).
(2) Turn the shuttle dial clockwise and turn the jog dial to “10” (month).
(3) Turn the shuttle dial clockwise and turn the jog dial to “06” (year).
(4) Turn the shuttle dial clockwise and turn the jog dial to “20” (hour).
(5) Turn the shuttle dial clockwise, turn the jog dial to “30” (minutes) and then turn the shuttle dial clockwise again.

The cursor moves to “PREVIEW”



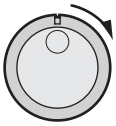


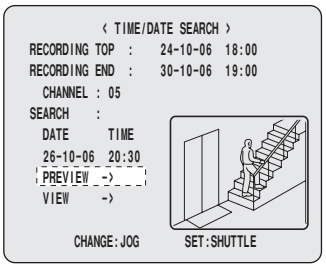
NOTE

- Also use the [CAMERA SELECT] 1-9 button, or the [QUAD] button (0) to input.

6 Turn the shuttle dial clockwise.

“SEARCHING” is displayed and then the preview screen for the date and time settings is displayed.





- If no recording exists for the specified time
  The closest recording to the specified time is displayed.

NOTE

- To end search mode
  Press the [SEARCH] button to end search mode. The SEARCH indicator turns off.

7 Turn the jog dial to select “VIEW” and then turn the shuttle dial clockwise.

The selected recording is played back on the full screen.

NOTE

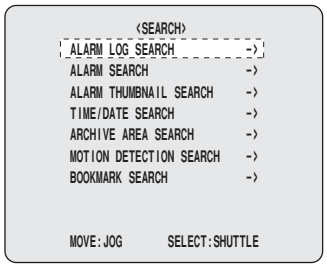
- The retrieved recording can be displayed on the full screen without displaying the preview screen by entering the date and time and then selecting “VIEW”.
- If “CHANNEL” is set to “- -” and playback is started, the recording is displayed on the multi 16 screens (on multi 9 screens for the DSR-5709P).
  Press the [CAMERA SELECT] button to view on a full screen.

Searching within the archive area

Use the following procedure to playback video that has been stored in the archive area.

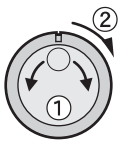
1 Press the [SEARCH] button while the digital video recorder is recording or stopped.

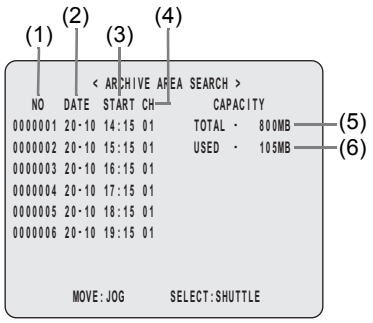
The SEARCH indicator lights up and the <SEARCH> screen is displayed.



2 Turn the jog dial to select “ARCHIVE AREA SEARCH” and then turn the shuttle dial clockwise.

The <ARCHIVE AREA SEARCH> screen is displayed.
This screen lists the eight most recent recordings in the order in which archiving was performed.





(1) NO:
Indicates the archive number.

(2) DATE:
Indicates the date of the recording.

(3) START:
Indicates the start time for the recording.

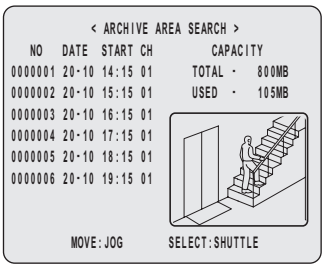
(4) CH:
Indicates the camera number for the stored recording.

(5) TOTAL:
Indicates the total capacity of the archive area.

(6) USED:
Indicates the amount of the archive area that has been used.

3 Turn the jog dial to select the video for playback from the list.

The selected image is displayed on the preview screen.



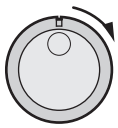
- To display the next or previous screen
  Turn the jog dial clockwise or counter-clockwise accordingly.
- Press the ▶▶| [ALARM] button to display the next eight recordings, and |◀◀ for the previous eight recordings.

NOTE

- Up to eight recordings can be displayed in the <ARCHIVE AREA SEARCH> screen.
- To switch to the copy setting screen
  Press the [MARK/COPY] button with a video specified in the list. (→P.52)
- To end search mode
  Press the [SEARCH] button. The SEARCH indicator turns off.
- Search also by entering the camera number.

4 Turn the shuttle dial clockwise.

The selected recording is played back on the full screen.

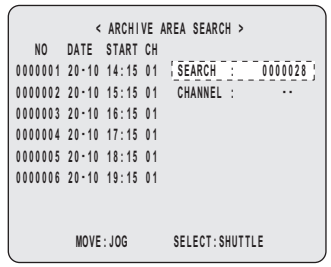


Entering an archive number to search for an alarm video

1 In the search screen, press the [FUNC.] button and select “SEARCH”.

The cursor moves to “SEARCH”.

FUNC.

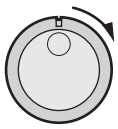


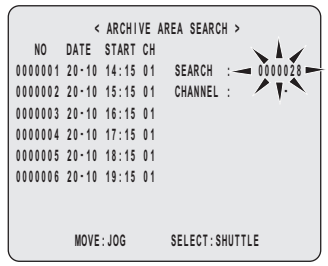
NOTE

- When the cursor is positioned on “SEARCH”, turn the jog dial to move the cursor to “CHANNEL”.

2 Turn the shuttle dial clockwise.

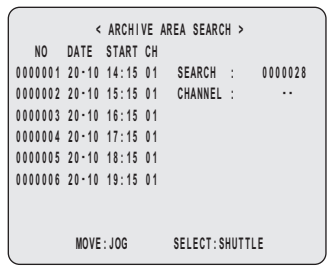
The “SEARCH” input field flashes.





3 Turn the jog dial and shuttle dial to select an archive number.

Turn the shuttle dial to move through the field and turn the jog dial to select a individual numbers (0 through 9).

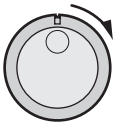


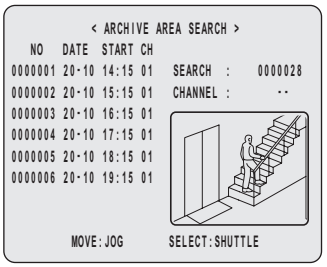
NOTE

- Also use 1-9 on the [CAMERA SELECT] button or the [QUAD] button (0) to input.

4 Turn the shuttle dial clockwise.

Data with the specified archive numbers are searched for and displayed in a list.





Motion detection search

By setting the motion sensor for normal, timer or alarm recordings, variations from normal images as a result of the presence of an intruder or the like can be detected, and the corresponding video can be played back.

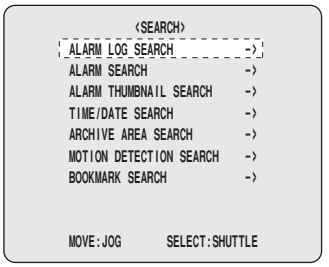
NOTE

- When a camera number is specified, searching can only be performed for that camera.

1 Press the [SEARCH] button while the digital video recorder is recording or stopped.

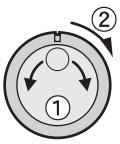
The SEARCH indicator lights up and the <SEARCH> screen is displayed.

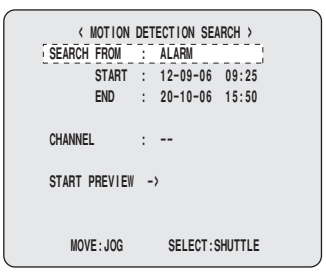
SEARCH



2 Turn the jog dial to select “MOTION DETECTION SEARCH” and then turn the shuttle dial clockwise.

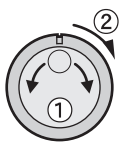
The <MOTION DETECTION SEARCH> screen is displayed.





3 Turn the shuttle dial clockwise.

"SEARCH FROM" input field flashes.



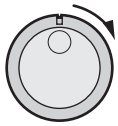
[Settings] (◆ indicates default setting)

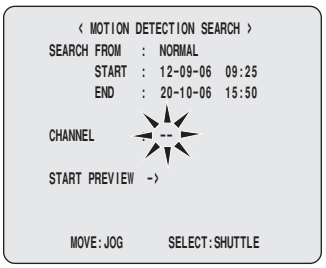
Setting	Description
◆ALARM	Searches alarm recording area.
NORMAL	Searches normal recording area.
ALARM & NORMAL	Searches normal and alarm recording areas.
ARCHIVE*1	Search the archive area.

*1 "ARCHIVE" can only be selected when "MODE" in "ARCHIVE AREA" in the <RECORDING CONDITIONS SET> screen is set to "AUTO ALARM COPY". (→P.86)

4 Turn the jog dial to select the "SEARCH FROM" setting and then turn the shuttle dial clockwise twice.

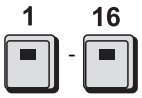
The camera number input field flashes.

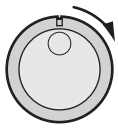


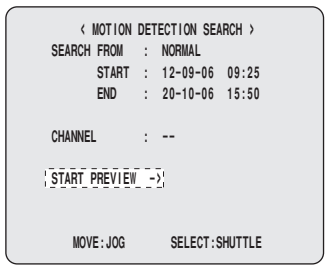


5 Press a [CAMERA SELECT] button and then turn the shuttle dial clockwise.

The cursor moves to "START PREVIEW".

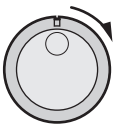


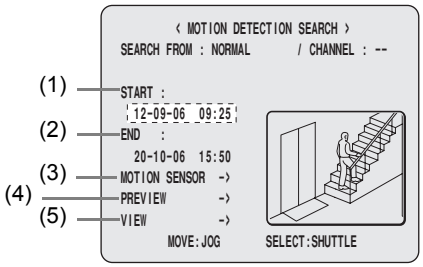




6 Turn the shuttle dial clockwise.

The screen changes and the preview screen for the selected camera number is displayed.





(1) START:
The date and time of the first screen of the selected recording is displayed.

(2) END:
The last date and time of the selected recording is displayed.

(3) MOTION SENSOR:
The motion sensor setting screen is displayed.

(4) PREVIEW:
Displays the selected start image.

(5) VIEW:
Plays the selected recording on the full screen.

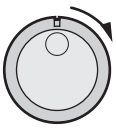
NOTE

- Press the [SEARCH] button to end search mode. The SEARCH indicator turns off.

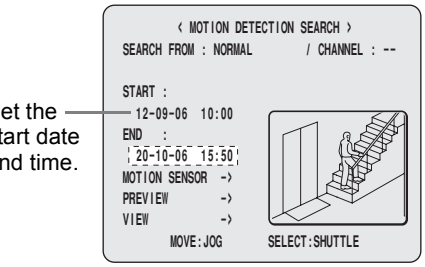
Setting the motion sensor for searching

1 Turn the shuttle dial clockwise while video is being displayed on the preview screen.

(1) Turn the jog dial to set the start date and time for motion sensing (i.e., 10 AM on the same day) and then turn the shuttle dial clockwise.
The recording for the selected time is displayed in the preview screen. The cursor moves to "END".

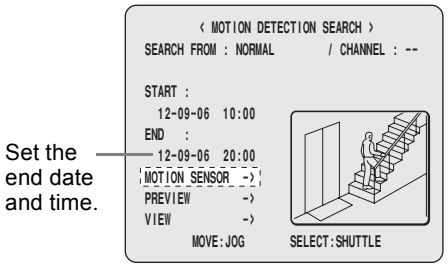


Set the start date and time.



(2) Turn the shuttle dial clockwise.

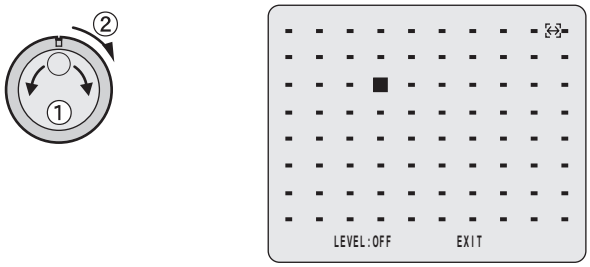
(3) Turn the jog dial to set the end date and time for motion sensing (i.e., 8 PM on the same day) and then turn the shuttle dial clockwise.
The cursor moves to “MOTION SENSOR”.



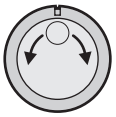
2 Turn the shuttle dial clockwise.

The motion sensor setting screen is displayed.
Use the following procedure to set to detect a given range with the motion sensor.

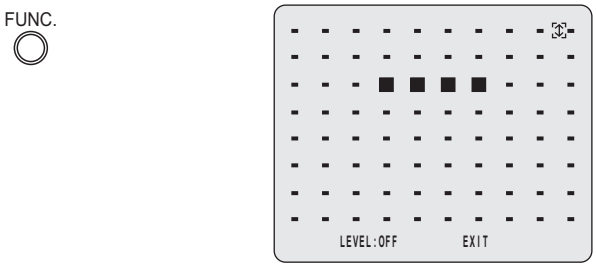
(1) Turn the jog dial to move the starting position to the desired detection range and then turn the shuttle dial clockwise.
“ ▪ ” changes to a yellow “■”.



(2) Turn the jog dial to move left and right.

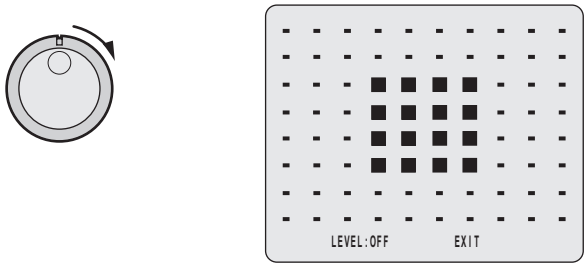


(3) Press the [FUNC.] button.
Cursor movements can be changed from left and right to up and down.



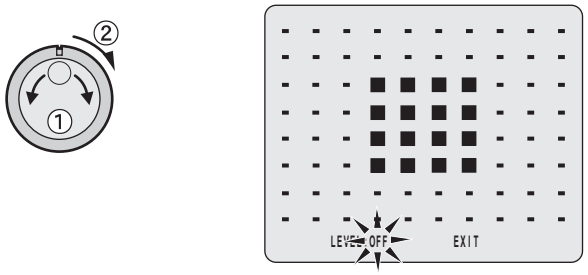
(4) Turn the jog dial to move up and down.

(5) Turn the shuttle dial clockwise.
The yellow areas change to gray.



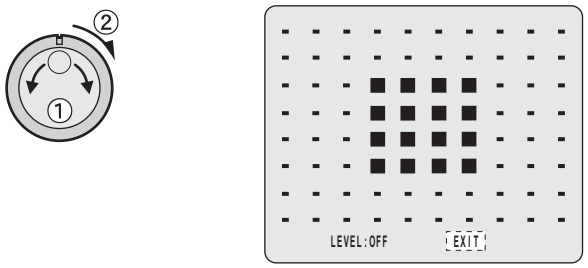
3 Press the [FUNC.] button, turn the jog dial to select “LEVEL” and then turn the shuttle dial clockwise.

“OFF” flashes.



4 Turn the jog dial to select sensitivity and then turn the shuttle dial clockwise.

After the sensitivity level is set, the cursor moves to “EXIT”.

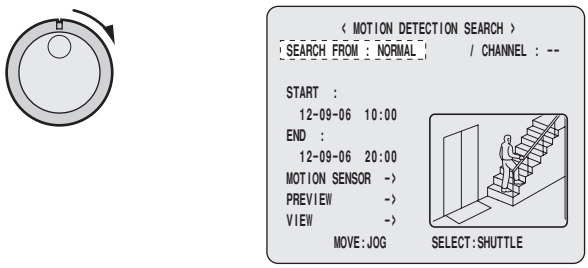


[Settings] (◆ indicates default setting)

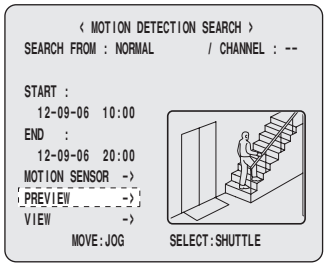
Setting	Description
◆OFF	Motion sensing is not performed.
1 to 10	Motion sensing is performed. Lower numbers correspond to higher levels of sensitivity.

5 Turn the shuttle dial clockwise.

The display returns to the <MOTION DETECTION SEARCH> screen.

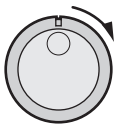


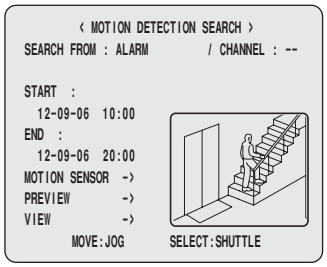
6 Turn the jog dial to select “PREVIEW”.



7 Turn the shuttle dial clockwise.

Each time the shuttle dial is turned clockwise, a different motion sensor screen is displayed on the preview screen.





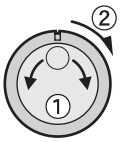
■ If “NOT FOUND!” is displayed

Set the motion sensor again.

Viewing video detected by the motion sensor

8 Turn the jog dial to select “VIEW” and then turn the shuttle dial clockwise.

Normal playback begins for the specified recording.



CAUTION

- If “- -” is specified for “CHANNEL”, the videos are displayed on multi 16 screens (on multi 9 screens for the DSR-5709P). If “01” to “16” (“01” to “09” for the DSR-5709P) is specified for “CHANNEL”, playback can be performed for only the specified camera number.
  In such a case, the title information, date information and/or time information may not be displayed completely.
- To playback a recording from a different camera, stop the current playback and then repeat the setting process from the beginning.

Bookmark search

Searches a bookmarked video to play it back.

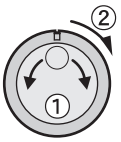
1 Press the [SEARCH] button while the digital video recorder is recording or stopped.

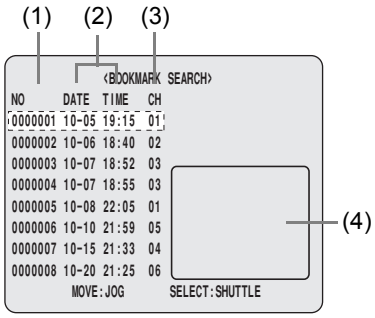
The SEARCH indicator lights up and the <SEARCH> screen is displayed.

SEARCH

2 Turn the jog dial to select “BOOK MARK SEARCH” and then turn the shuttle dial clockwise.

The <BOOKMARK SEARCH> screen is displayed.
The eight bookmarks are displayed in a list.





(1) NO
The number of the bookmark is displayed (1 up to 64).

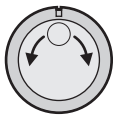
(2) DATE/TIME
The date and time of bookmarked video are displayed.

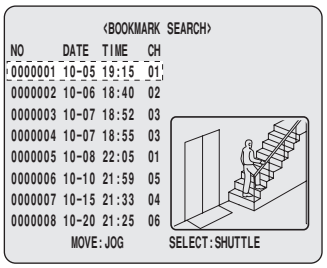
(3) CH
The recording camera number is displayed.
(For video bookmarked during recording, “--” is displayed for CH.)

(4) Preview screen
The selected video is displayed.

3 Turn the jog dial to select the video for playback from the list.

The selected image is displayed on the preview screen.





- To display the next or previous screen
  Turn the jog dial clockwise or counter-clockwise accordingly.
- Press the ▶▶| [ALARM] button to display the next eight recordings, and |◀◀ for the previous eight recordings.

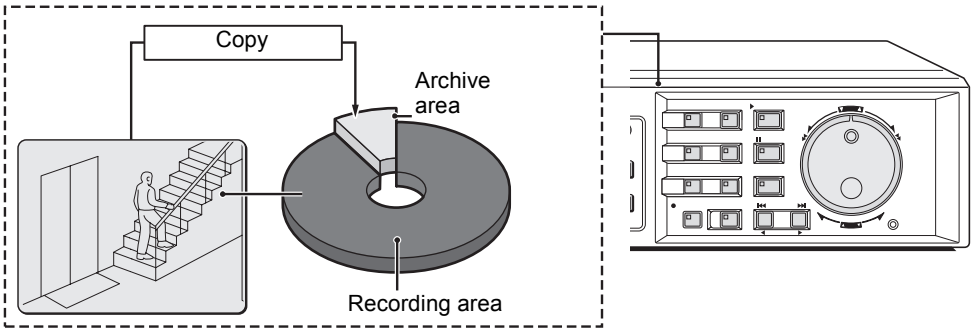
NOTE

- To switch to the copy setting screen
  Press the [MARK/COPY] button with a video specified in the list. (→P.52)
- To exit the search mode
  Press the [SEARCH] button. The [SEARCH] lamp goes off.

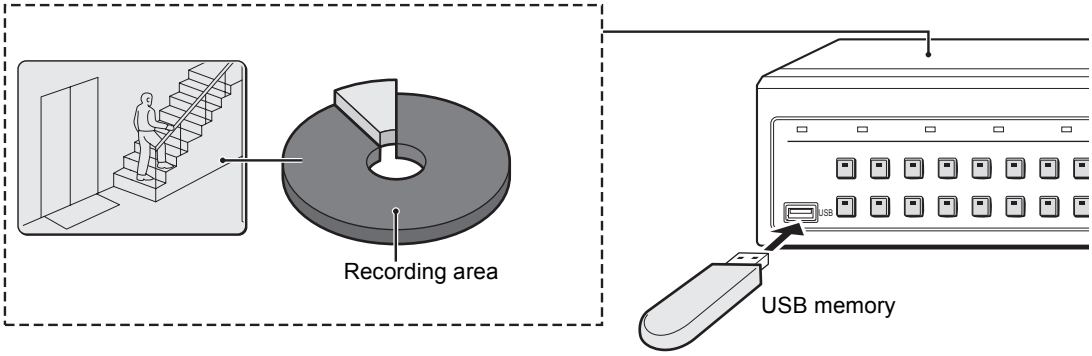
6 SAVING (COPYING) RECORDED VIDEO

Use the procedures described below to copy important normal, timer or alarm recordings to the digital video recorder's archive area, a USB memory, a CD-R/RW or a DVD+R/+RW.

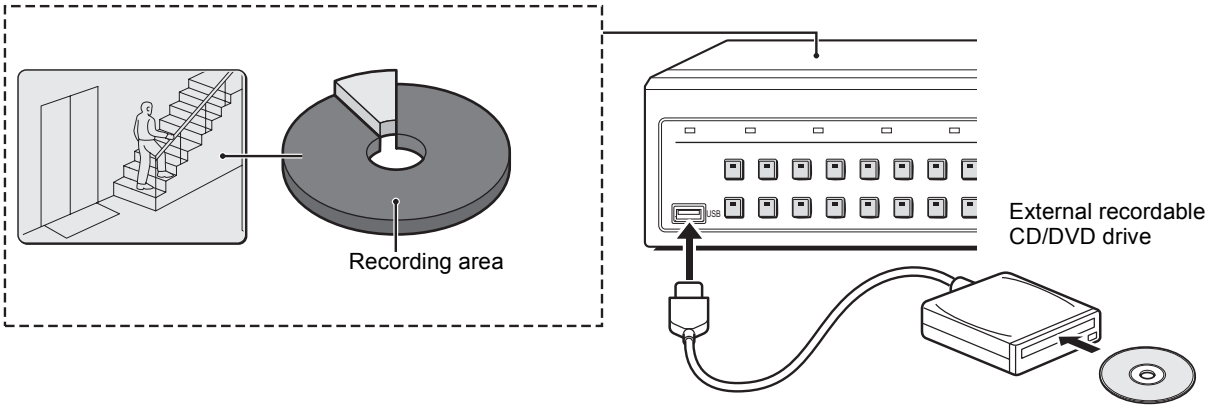
Copying video to the hard disk's archive area (→P.53)



Copying video to a USB memory (→P.54)



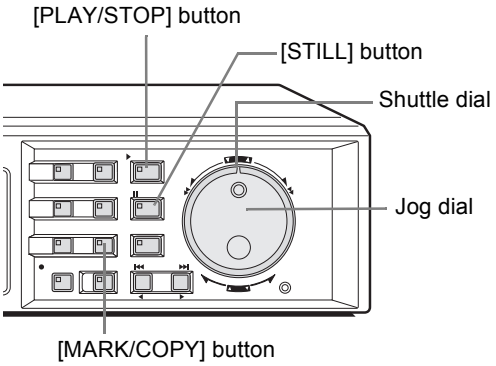
Copying video to a CD-R/RW or DVD+R/+RW (→P.57)



NOTE

- Copied data is stored as continuous still images.
- If audio is recorded, audio can also be copied.

Copying video to the hard disk's archive area



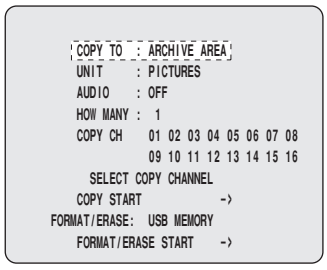
Example: Copying 10 seconds of video

1 Play video to be copied.

2 Press the [STILL] button when the frame to be copied is displayed.

3 Press the [MARK/COPY] button.

The COPY indicator lights up and the copy setting screen is displayed.
"ARCHIVE AREA" is displayed for "COPY TO".

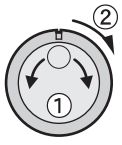

COPY TO : ARCHIVE AREA
UNIT : PICTURES
AUDIO : OFF
HOW MANY : 1
COPY CH 01 02 03 04 05 06 07 08
09 10 11 12 13 14 15 16
SELECT COPY CHANNEL
COPY START ->
FORMAT/ERASE: USB MEMORY
FORMAT/ERASE START ->"

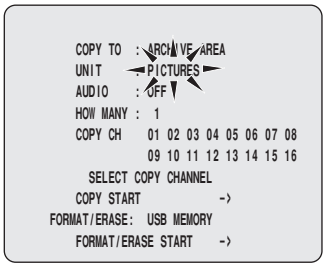
4 Turn the jog dial clockwise.

The cursor moves to "UNIT".

5 Turn the shuttle dial clockwise.

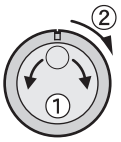
"PICTURES" flashes.

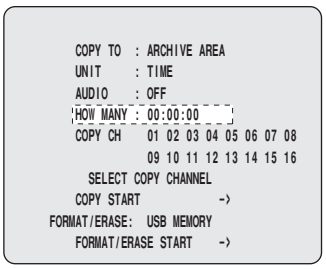



COPY TO : ARCHIVE AREA
UNIT PICTURES
AUDIO : OFF
HOW MANY : 1
COPY CH 01 02 03 04 05 06 07 08
09 10 11 12 13 14 15 16
SELECT COPY CHANNEL
COPY START ->
FORMAT/ERASE: USB MEMORY
FORMAT/ERASE START ->"

6 Turn the jog dial to select "TIME" and then turn the shuttle dial clockwise.

The cursor moves to "HOW MANY".




COPY TO : ARCHIVE AREA
UNIT : TIME
AUDIO : OFF
HOW MANY : 00:00:00
COPY CH 01 02 03 04 05 06 07 08
09 10 11 12 13 14 15 16
SELECT COPY CHANNEL
COPY START ->
FORMAT/ERASE: USB MEMORY
FORMAT/ERASE START ->"

[Settings] (◆ indicates default setting)

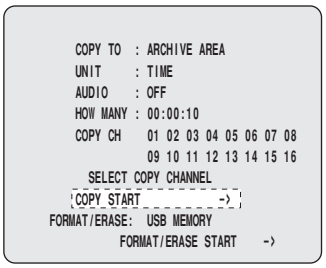
Setting	Description
◆PICTURES	The specified number of images after the specified location are copied. (Specify the number of images next to "HOW MANY". You can set any number from 1 to 99.)
TIME	The specified duration after the specified location is copied (time:minutes:seconds). (Specify hours/minutes/seconds next to "HOW MANY".)
EVENTS	The specified number of events is copied. (Specify the number of events next to "HOW MANY". You can set any number from 1 to 99.)

NOTE

- An event means a continuous record (or a recording unit set by "DURATION" in the case of alarm recording).
- You can only select "EVENTS" when copying alarm recording video.
- You can specify "ON/OFF" for "AUDIO" when recording audio.

7 Set the time.

(1) Turn the shuttle dial clockwise.
"00" (hour) flashes.
(2) Turn the jog dial to select "00" and then turn the shuttle dial clockwise.
"00" (minutes) flashes.
(3) Turn the jog dial to select "00" and then turn the shuttle dial clockwise.
"00" (seconds) flashes.
(4) Turn the jog dial to select "10" and then turn the shuttle dial clockwise.
The cursor moves to "COPY START".

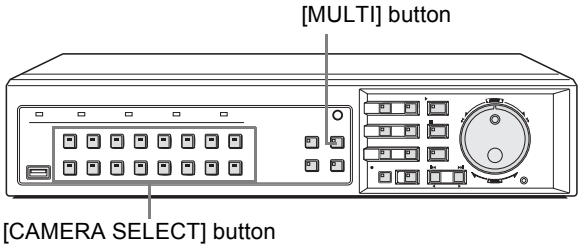

COPY TO : ARCHIVE AREA
UNIT : TIME
AUDIO : OFF
HOW MANY : 00:00:10
COPY CH 01 02 03 04 05 06 07 08
09 10 11 12 13 14 15 16
SELECT COPY CHANNEL
COPY START ->
FORMAT/ERASE: USB MEMORY
FORMAT/ERASE START ->"

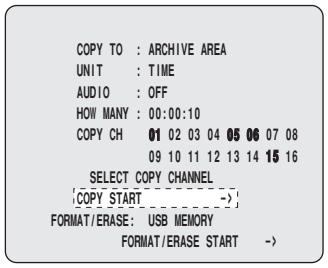
8 Specify the channel to copy

You can copy video from multiple channels at the same time. Use the [CAMERA SELECT] button on the front panel to specify the channel(s) you want to copy.
The specified channel(s) turns white from grey.

NOTE

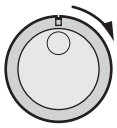
- The channel(s) that was playing back when the [MARK/COPY] button was pressed turns green, and it is fixed as the copy channel(s).
- Pressing the [MULTI] button selects all channels. Pressing the button once again will deselect all channels except the fixed one(s).

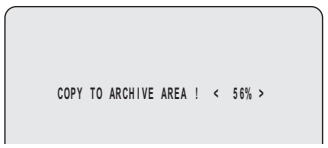



COPY TO : ARCHIVE AREA
UNIT : TIME
AUDIO : OFF
HOW MANY : 00:00:10
COPY CH 01 02 03 04 05 06 07 08
09 10 11 12 13 14 15 16
SELECT COPY CHANNEL
COPY START ->
FORMAT/ERASE: USB MEMORY
FORMAT/ERASE START ->"

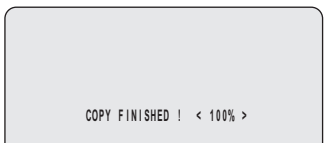
9 Turn the shuttle dial clockwise.

Copying to the archive area begins.
The message “COPY TO ARCHIVE AREA !” is displayed on-screen during the copy procedure.



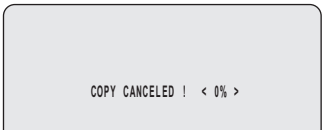


When copying is completed, “COPY FINISHED !” is displayed.



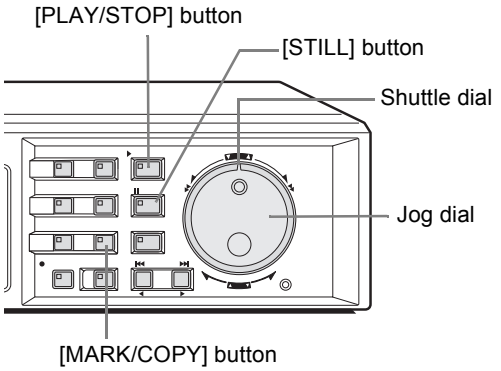
■ To cancel copying

Press the [MARK/COPY] button.



Copying to a USB memory

Copies video saved in recording area or archive area onto a USB memory.



Example: Copying 20 images

1 Insert a USB memory.

CAUTION

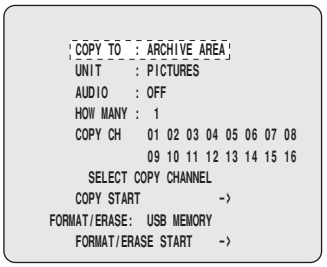
- The digital video recorder has one USB port each on the front and rear panels; however, you cannot use them at the same time. Insert a USB memory in either the front or rear port. If memories are inserted into both ports, the front port takes precedence.
- Requirements for USB memory:
  USB2.0 High speed compliant device
  Total space of 2GB or less
  Prior to use, format a USB memory using the digital video recorder.

2 Play video to be copied on a full screen.

3 Press the [STILL] button when the frame to be copied is displayed.

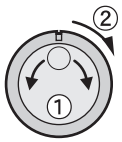
4 Press the [MARK/COPY] button.

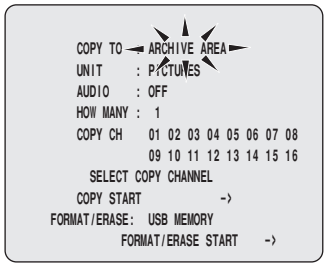
The COPY indicator lights up and the copy setting screen is displayed.


COPY TO : ARCHIVE AREA
UNIT : PICTURES
AUDIO : OFF
HOW MANY : 1
COPY CH 01 02 03 04 05 06 07 08
09 10 11 12 13 14 15 16
SELECT COPY CHANNEL
COPY START ->
FORMAT/ERASE: USB MEMORY
FORMAT/ERASE START ->

5 Turn the shuttle dial clockwise.

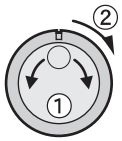
"ARCHIVE AREA" flashes.

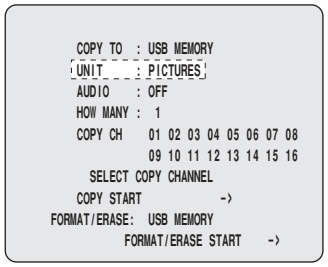



COPY TO : ARCHIVE AREA
UNIT : PICTURES
AUDIO : OFF
HOW MANY : 1
COPY CH 01 02 03 04 05 06 07 08
09 10 11 12 13 14 15 16
SELECT COPY CHANNEL
COPY START ->
FORMAT/ERASE: USB MEMORY
FORMAT/ERASE START ->

6 Turn the jog dial to select "USB MEMORY" and then turn the shuttle dial clockwise.

The cursor moves to "UNIT".



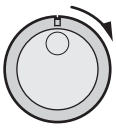

COPY TO : USB MEMORY
UNIT : PICTURES
AUDIO : OFF
HOW MANY : 1
COPY CH 01 02 03 04 05 06 07 08
09 10 11 12 13 14 15 16
SELECT COPY CHANNEL
COPY START ->
FORMAT/ERASE: USB MEMORY
FORMAT/ERASE START ->

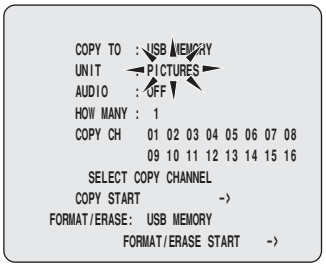
CAUTION

- Up to 40,000 images can be copied in a single operation. When specifying the number of images using "TIME", copying ends after 40,000 images are copied.
- Alarm recordings can only be copied one event at a time.

7 Turn the shuttle dial clockwise.

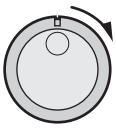
"PICTURES" flashes.

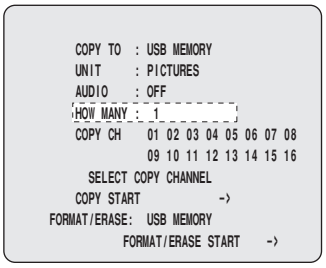



COPY TO : USB MEMORY
UNIT : PICTURES
AUDIO : OFF
HOW MANY : 1
COPY CH 01 02 03 04 05 06 07 08
09 10 11 12 13 14 15 16
SELECT COPY CHANNEL
COPY START ->
FORMAT/ERASE: USB MEMORY
FORMAT/ERASE START ->

8 Turn the shuttle dial clockwise while "PICTURES" is flashing.

The cursor moves to "HOW MANY".




COPY TO : USB MEMORY
UNIT : PICTURES
AUDIO : OFF
HOW MANY : 1
COPY CH 01 02 03 04 05 06 07 08
09 10 11 12 13 14 15 16
SELECT COPY CHANNEL
COPY START ->
FORMAT/ERASE: USB MEMORY
FORMAT/ERASE START ->

[Settings] (◆ indicates default setting)

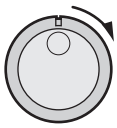
Setting	Description
◆PICTURES	The specified number of images after the specified location are copied. (Specify the number of images next to "HOW MANY". You can set any number from 1 to 99.)
TIME	The specified duration after the specified location is copied (TIME:minutes:seconds). (Specify hours/minutes/seconds next to "HOW MANY".)
MAXIMUM	The maximum number of images allowable in the copy destination is copied or all the data from the copy source is copied.
EVENTS	The specified number of events are copied. (Specify the number of events next to "HOW MANY". You can set any number from 1 to 99.)
EVENTS (MAX)	Images are copied on an event basis onto the destination until it becomes full or the last data of the copy source is copied.

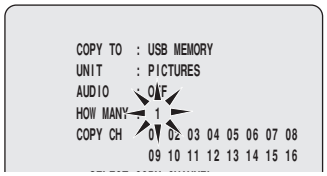
NOTE

- An event means a continuous record (or a recording unit set by "DURATION" for the alarm recording).
- You can only select "EVENTS" or "EVENTS (MAX)" when copying video saved in the archive area or alarm recording video.
- If audio is recorded, "ON" or "OFF" can be set for "AUDIO".

9 Turn the shuttle dial clockwise.

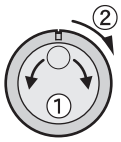
"1" flashes.





10 Turn the jog dial to select "20" and then turn the shuttle dial clockwise.

The cursor moves to "COPY START".

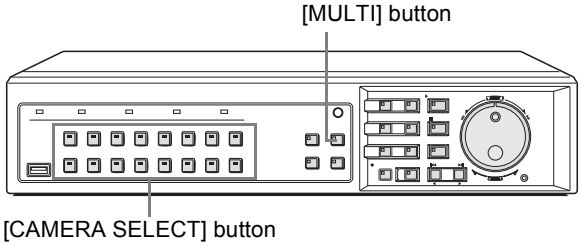


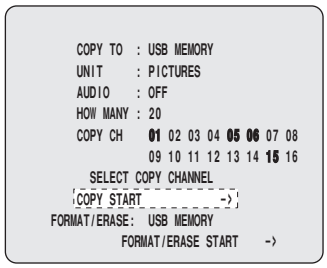
11 Specify the channel to copy

You can copy multiple channel videos at the same time. Use the [CAMERA SELECT] button on the front panel to specify a channel(s) whose video you want to copy.The specified channel(s) turns white from grey.

NOTE

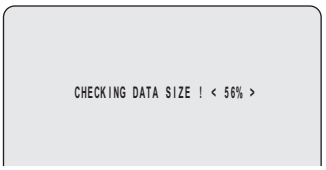
- The channel(s) which was playing the video when the [MARK/COPY] button was pressed turns green, and it is fixed as a copy channel(s).
- All channels are selected if the [MULTI] button is pressed. Pressing the button once again will deselect all channels except the fixed one(s).



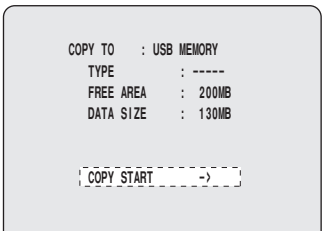

COPY TO : USB MEMORY
UNIT : PICTURES
AUDIO : OFF
HOW MANY : 20
COPY CH 01 02 03 04 05 06 07 08
09 10 11 12 13 14 15 16
SELECT COPY CHANNEL
COPY START ->
FORMAT/ERASE: USB MEMORY
FORMAT/ERASE START ->)

12 Turn the shuttle dial clockwise.

The copy data and the capacity of the copy destination are checked.



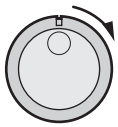
The available space and write capacity are checked.

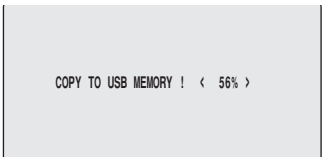


The available space and write capacity are displayed and the cursor moves to "COPY START".

13 Turn the shuttle dial clockwise.

Copying begins. The message "COPY TO USB MEMORY !" is displayed on-screen during the copy procedure.





When copying is completed, "COPY FINISHED !" is displayed.

■ To cancel copying

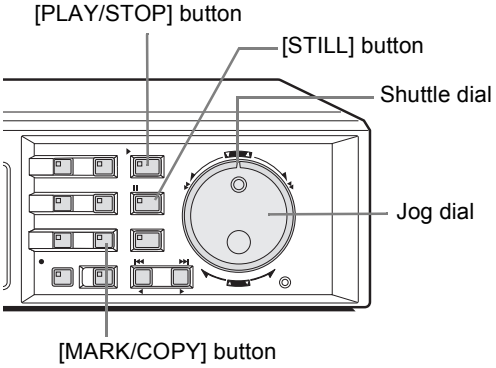
Press the [MARK/COPY] button.

CAUTION

- When a USB memory becomes full during a copy operation, a message will appear before the operation stops. By making any control action, the display returns to the normal screen. Replace the USB memory with a new one and repeat the copy operation. Even if the previous operation is aborted due to the lack of storage space, the data that was copied before the operation stopped is saved in the copy destination.

Copying to a CD-R/RW or DVD+R/+RW

Use the following procedure to copy recording area or archive area video to a CD-R/RW or DVD+R/+RW.

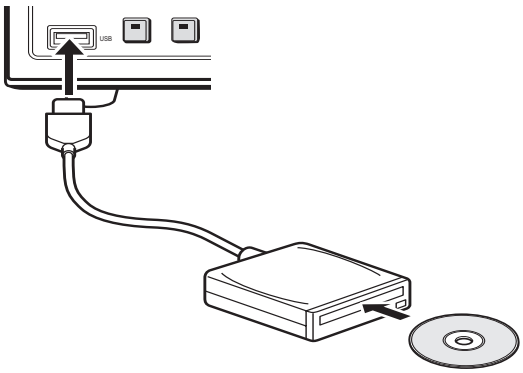


Example: Copying the maximum video to the copy destination

NOTE

- For compatibility, refer to the SANYO homepage. http://www.sanyosecurity.com/

1 Connect a recordable CD or DVD drive and insert a disc.



CAUTION

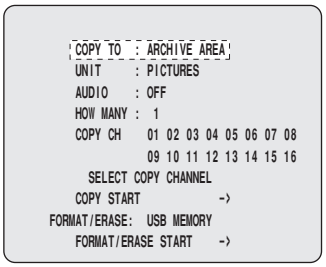
- The digital video recorder has one USB terminal on the front and one on the back, but they cannot be used simultaneously. Connect recordable drive to either terminal. If both sides have devices connected, the front terminal is prioritized.

2 Play video to be copied on a full screen.

3 Press the [STILL] button when the frame to be copied is displayed.

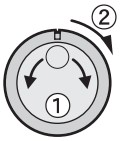
4 Press the [MARK/COPY] button.

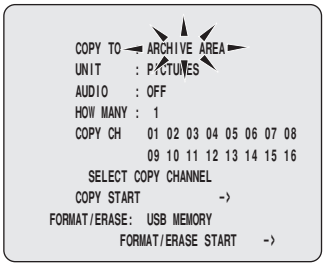
The COPY indicator lights up and the copy setting screen is displayed.


COPY TO : ARCHIVE AREA
UNIT : PICTURES
AUDIO : OFF
HOW MANY : 1
COPY CH 01 02 03 04 05 06 07 08
09 10 11 12 13 14 15 16
SELECT COPY CHANNEL
COPY START ->
FORMAT/ERASE: USB MEMORY
FORMAT/ERASE START ->

5 Turn the jog dial to select “COPY TO” and then turn the shuttle dial clockwise.

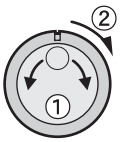
“ARCHIVE AREA” flashes.

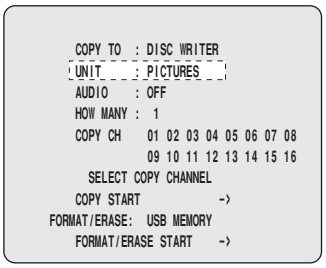



COPY TO : ARCHIVE AREA
UNIT : PICTURES
AUDIO : OFF
HOW MANY : 1
COPY CH 01 02 03 04 05 06 07 08
09 10 11 12 13 14 15 16
SELECT COPY CHANNEL
COPY START ->
FORMAT/ERASE: USB MEMORY
FORMAT/ERASE START ->

6 Turn the jog dial to select “DISC WRITER” and then turn the shuttle dial clockwise.

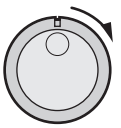
The cursor moves to “UNIT”.

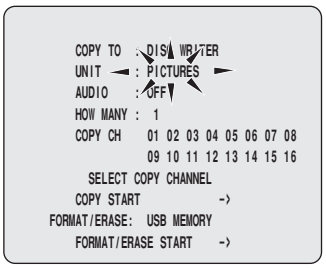



COPY TO : DISC WRITER
UNIT : PICTURES
AUDIO : OFF
HOW MANY : 1
COPY CH 01 02 03 04 05 06 07 08
09 10 11 12 13 14 15 16
SELECT COPY CHANNEL
COPY START ->
FORMAT/ERASE: USB MEMORY
FORMAT/ERASE START ->

7 Turn the shuttle dial clockwise.

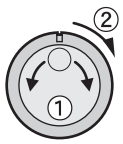
“PICTURES” flashes.

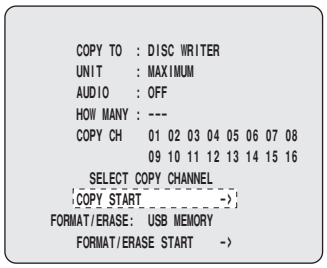



COPY TO : DISC WRITER
UNIT : PICTURES
AUDIO : OFF
HOW MANY : 1
COPY CH 01 02 03 04 05 06 07 08
09 10 11 12 13 14 15 16
SELECT COPY CHANNEL
COPY START ->
FORMAT/ERASE: USB MEMORY
FORMAT/ERASE START ->

8 Turn the jog dial to select “MAXIMUM” and then turn the shuttle dial clockwise.

The cursor moves to “COPY START”.




COPY TO : DISC WRITER
UNIT : MAXIMUM
AUDIO : OFF
HOW MANY : ---
COPY CH 01 02 03 04 05 06 07 08
09 10 11 12 13 14 15 16
SELECT COPY CHANNEL
COPY START ->
FORMAT/ERASE: USB MEMORY
FORMAT/ERASE START ->)

[Settings] (◆ indicates default setting)

Setting	Description
◆PICTURES	The specified number of images after the specified location are copied. (Specify the number of images next to “HOW MANY”. You can set any number from 1 to 99.)
TIME	The specified duration after the specified location is copied (TIME:minutes:seconds). (Specify hours/minutes/seconds next to “HOW MANY”.)
MAXIMUM	The maximum number of images allowable in the copy destination is copied or all the data from the copy source is copied.
EVENTS	The specified number of events are copied. (Specify the number of events next to “HOW MANY”. You can set any number from 1 to 99.)
EVENTS (MAX)	Images are copied on an event basis onto the destination until it becomes full or the last data of the copy source has been copied.

NOTE

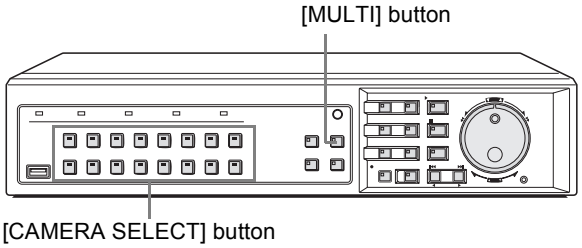
- An event means a continuous record (or a recording unit set by “DURATION” for the alarm recording).
- You can select “EVENTS” or “EVENTS (MAX)” only when copying video saved in archive area or alarm recording video.
- If audio is recorded, “ON” or “OFF” can be set for “AUDIO”.

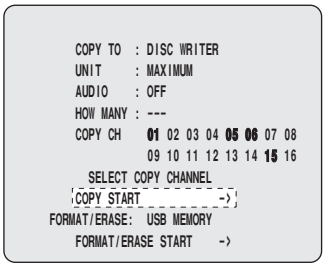
9 Specify the channel to copy

You can copy multiple channel videos at the same time. Use the [CAMERA SELECT] button on the front panel to specify a channel(s) whose video you want to copy.The specified channel(s) turns white from grey.

NOTE

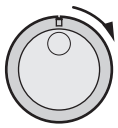
- The channel(s) which was playing the video when the [MARK/COPY] button was pressed turns green, and it is fixed as a copy channel(s).
- All channels are selected if the [MULTI] button is pressed. Pressing the button once again will deselect all channels except the fixed one(s).

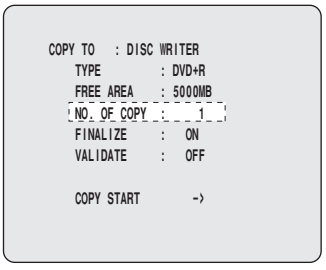



COPY TO : DISC WRITER
UNIT : MAXIMUM
AUDIO : OFF
HOW MANY : ---
COPY CH 01 02 03 04 05 06 07 08
09 10 11 12 13 14 15 16
SELECT COPY CHANNEL
COPY START ->
FORMAT/ERASE: USB MEMORY
FORMAT/ERASE START ->)

10 Turn the shuttle dial clockwise.

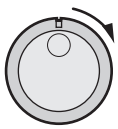
The display switches to the disc details screen to show the media type and free space of the copy destination. The cursor is placed on “NO. OF COPY”.

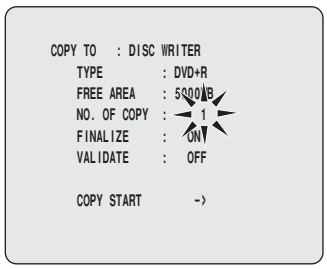




11 Turn the shuttle dial clockwise.

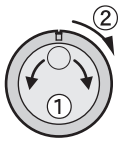
The number of images flashes.

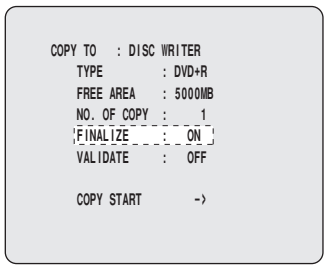




12 Turn the jog dial to set the number of discs to copy, and turn the shuttle dial clockwise.

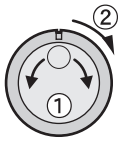
The cursor appears on “FINALIZE”.

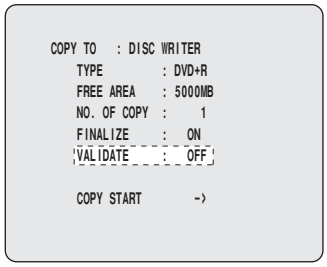




13 Set “ON/OFF” for the “FINALIZE” process, and then turn the shuttle dial clockwise.

If you want to write additional data on the same medium, turn the jog dial to specify “OFF" for "FINALIZE”.
Once the setting is done, turn the shuttle dial clockwise to move the cursor to “VALIDATE”.





[Settings] (◆ indicates default setting)

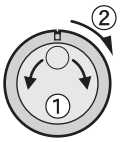
Setting	Description
◆ON	Finalizes the disc (disables multi-session writes).
OFF	Does not finalize the disc (enables multi-session writes).

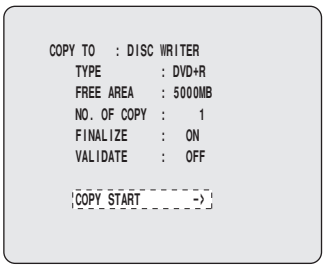
CAUTION

- You can carry out up to 99 write sessions to a CD-R/ DVD+R, or up to 99 write sessions within the same date to a CD-RW/DVD+RW.
- Copying data requires at least 20MB of free space on a disc.
- When the copy destination is a DVD+RW, the “FINALIZE” setting is fixed to “OFF”.
- Data copied to a DVD+R in multi-session mode can only be retrieved under environments that satisfy the following:
  Drive:
  Drive with DVD multi-session/multi-border retrieval support
  OS:
  Windows 2000 (with SP3 or later), Windows XP

14 Specify the disc validation function settings

If you want to use “Verify” and/or “Compare” functions during a copy operation, you need to configure “VALIDATE” using the jog dial.
Once the setting is done, turn the shuttle dial clockwise to move the cursor to “COPY START”.





[Settings] (◆ indicates default setting)

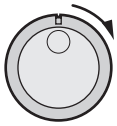
Setting	Description
◆OFF	Does not verify or compare the disc.
VERIFY	Verifies the disc to make sure that the data residing on it can be retrieved.
VERIFY+ COMPARE	Both verifies and compares the disc to make sure that the data written onto the target disc is identical to that on the source disc.

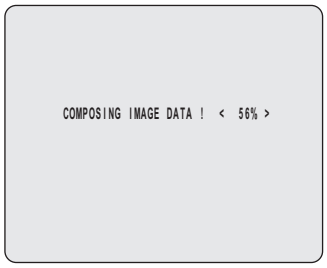
NOTE

- When an error is detected during disc verification, you are presented with a warning message that states either “VERIFY ERROR” or “COMPARE ERROR”. Chances are that your medium is defective or corrupted; replace it with a new disc and try again.
- Warning messages can be dismissed by pressing any button on the front panel or turning the jog or shuttle dial.

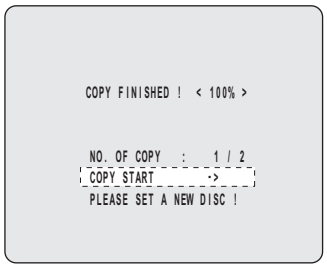
15 Turn the shuttle dial clockwise.

Copying begins. The message “COMPOSING IMAGE DATA!”, then “COPY TO DISC WRITER” is displayed on screen during copying.
When “COPY TO DISC WRITER <99%>” is displayed, finalizing may take 3 to 4 minutes.





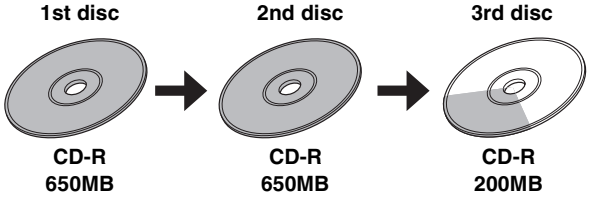
When copying is completed, “COPY FINISHED !” is displayed and the tray opens.



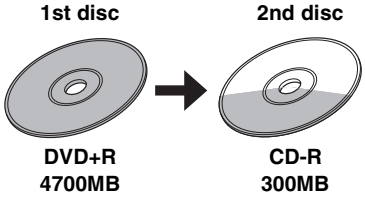
Copying data onto multiple discs

There are occasions when your data does not fit into one disc. Now you can successively copy the remaining data to new discs in such cases.
When the current disc becomes full, the disc tray is automatically ejected and you are prompted to replace the disc with a new one.

Example 1: This example illustrates how 1500MB data can be copied across three CD-R (650MB) discs:



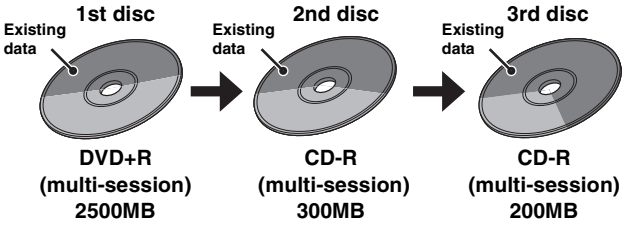
Example 2: This example illustrates how 5000MB data can be copied to DVD+R (4700MB) and CD-R (650MB) discs (one each):



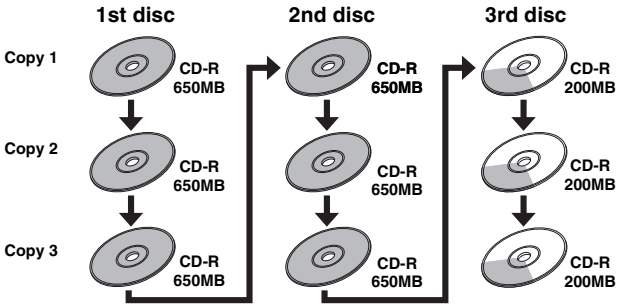
NOTE

- Support for copying across multiple discs is available regardless of the target medium type (DVD or CD).

Example 3: This example illustrates how 3000MB data can be multi-session written onto one DVD+R (with 2500MB free space), CD-R (with 300MB free space), and CD-R (with 500MB free space):



Example 4: This example illustrates how 1500MB data can be copied to 9 CD-R discs (650MB each) with “NO. OF COPY” set to 3:



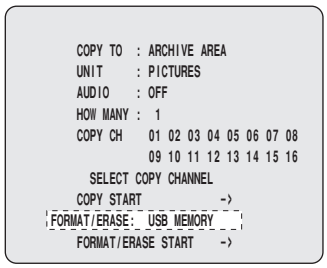
CAUTION

When you copy data across multiple discs with “NO. OF COPY” set to a number larger than 1:

- All discs must be blank. This feature does not support multi-session writes.
- Second and subsequent copies must be written onto discs that are in capacity equal to or larger than the disc for the first copy.

Formatting a USB memory, CD-RW or DVD+RW

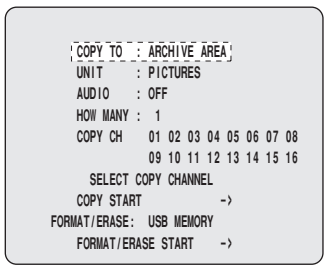
It is possible to format a USB memory, CD-RW or DVD+RW.


COPY TO : ARCHIVE AREA
UNIT : PICTURES
AUDIO : OFF
HOW MANY : 1
COPY CH 01 02 03 04 05 06 07 08
09 10 11 12 13 14 15 16
SELECT COPY CHANNEL
COPY START ->
FORMAT/ERASE: USB MEMORY
FORMAT/ERASE START ->

1 Insert a USB memory, CD-RW or DVD+RW.

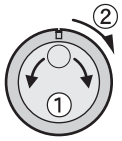
2 Press the [MARK/COPY] button.

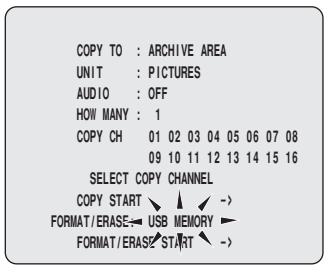
The COPY indicator lights up and the copy setting screen is displayed.


COPY TO : ARCHIVE AREA
UNIT : PICTURES
AUDIO : OFF
HOW MANY : 1
COPY CH 01 02 03 04 05 06 07 08
09 10 11 12 13 14 15 16
SELECT COPY CHANNEL
COPY START ->
FORMAT/ERASE: USB MEMORY
FORMAT/ERASE START ->

3 Turn the jog dial to select "FORMAT/ERASE" and then turn the shuttle dial clockwise.

"USB MEMORY" flashes.



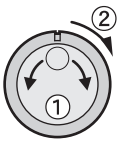

COPY TO : ARCHIVE AREA
UNIT : PICTURES
AUDIO : OFF
HOW MANY : 1
COPY CH 01 02 03 04 05 06 07 08
09 10 11 12 13 14 15 16
SELECT COPY CHANNEL
COPY START ->
FORMAT/ERASE: USB MEMORY
FORMAT/ERASE START ->

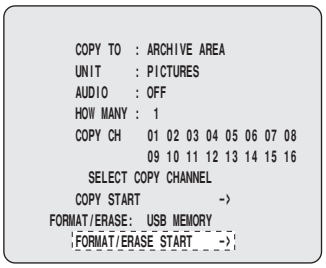
CAUTION

- "FORMAT/ERASE" cannot be selected when a disc writer is not connected.

4 Turn the jog dial to select the "FORMAT/ERASE" setting and then turn the shuttle dial clockwise.

The cursor moves to "FORMAT/ERASE START".



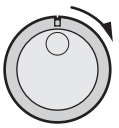

COPY TO : ARCHIVE AREA
UNIT : PICTURES
AUDIO : OFF
HOW MANY : 1
COPY CH 01 02 03 04 05 06 07 08
09 10 11 12 13 14 15 16
SELECT COPY CHANNEL
COPY START ->
FORMAT/ERASE: USB MEMORY
FORMAT/ERASE START ->

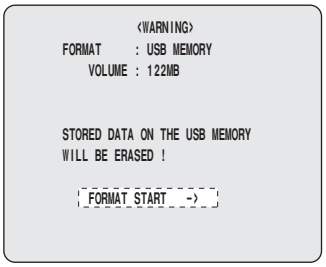
[Settings] (◆ indicates default setting)

Setting	Description
◆USB MEMORY	Formats a USB memory.
DISC WRITER	Formats a CD-RW or DVD+RW.

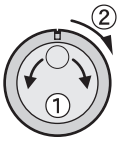
5 Turn the shuttle dial clockwise.

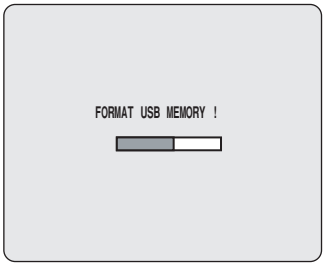
The <WARNING> screen is displayed.





6 Turn the jog dial to select "FORMAT START" and then turn the shuttle dial clockwise.



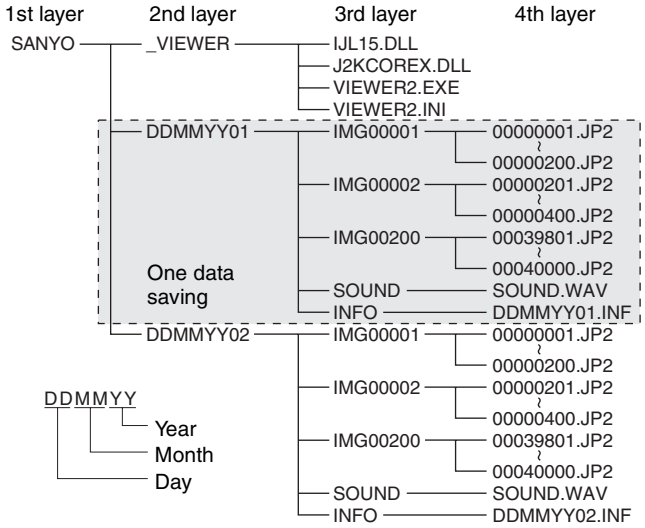


CAUTION

- Be sure to use USB memory that have been formatted using FAT16. The digital video recorder does not recognize FAT32 USB memorys.

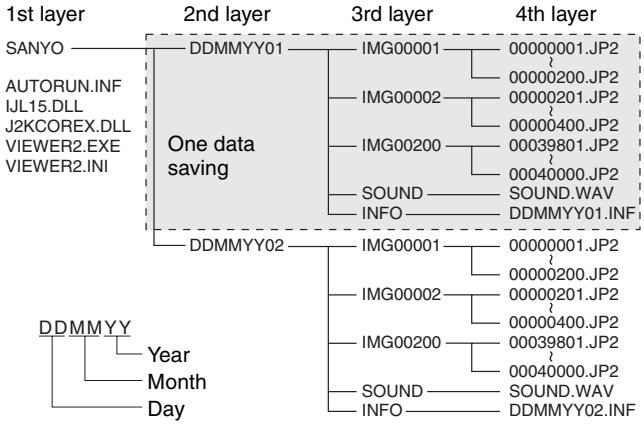
Folder structure of copied video

Folder hierarchy for data copied onto a USB memory



1. The first layer consists of a single folder named “SANYO”, under which a number of session-specific folders are created as the second layer.
2. The second layer consists of a number of session-specific folders that are named in this format: DDMMYY (the recording date for the first image copied in the copy session) followed by a two-digit serial number.
3. The third layer consists of a number of image storage folders that are named in this format: IMG followed by a 5-digit serial number. Each of these folders can contain up to 200 image files that make up the fourth layer.
4. For image files with sound, the corresponding WAV files are stored in the “SOUND” folder.
5. The “INFO” folder is created on a session by session basis, and it contains configuration information files.
6. As part of the second layer, a folder named “VIEWER” is created, and it contains viewer-related files including “IJL15.DLL”, “J2KCOREX.DLL”, “VIEWER2.EXE”, and “VIEWER2.INI”.

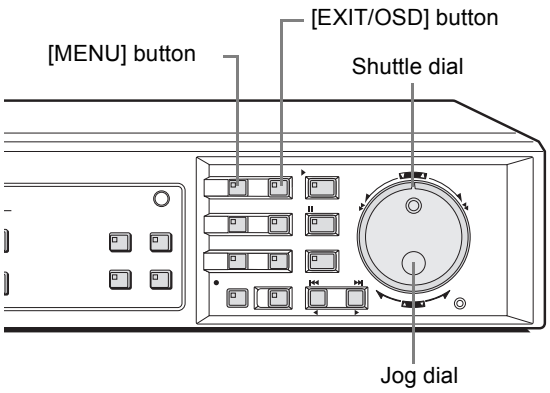
Folder hierarchy for data copied onto a CD-R/RW or DVD+R/RW



1. The first layer consists of a single folder named “SANYO”, under which a number of session-specific folders are created as the second layer.
2. The second layer consists of a number of session-specific folders that are named in this format: DDMMYY (the recording date for the first image copied in the copy session) followed by a two-digit serial number.
3. The third layer consists of a number of image storage folders that are named in this format: IMG followed by a 5-digit serial number. Each of these folders can contain up to 200 image files that make up the fourth layer.
4. For image files with sound, the corresponding WAV files are stored in the “SOUND” folder.
5. The “INFO” folder is created on a session by session basis, and it contains configuration information files.
6. Viewer-related files including “AUTRUN.INF”, “IJL15.DLL”, “J2KCOREX.DLL”, “VIEWER2.EXE”, and “VIEWER2.INI” are directly placed in the first layer.

NOTE

- To view images on your PC, open the “DDMMYYXX” folder using the dedicated viewer. To open the viewer, double-click “Viewer2.exe”.
  (The dedicated viewer and JPEG2000 plug-in are downloaded to the media with the images.)

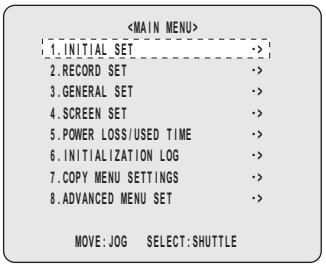


This section describes the menu configuration and the menu items to be selected for each operation.

Basic menu operations

1 Press the [MENU] button.

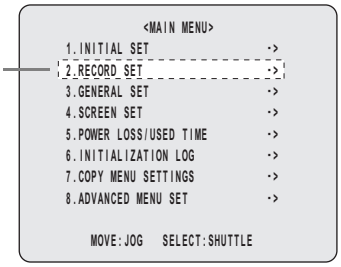
The MENU indicator lights up and the <MAIN MENU> is displayed.



2 Turn the jog dial to select a function.

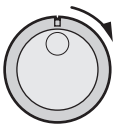
Example: “2.RECORD SET”
The cursor moves.

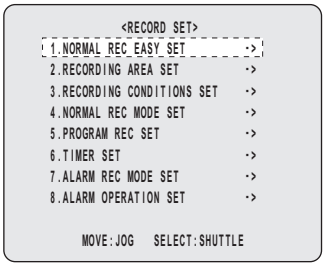
Cursor position



3 Turn the shuttle dial clockwise.

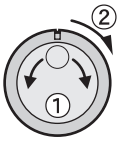
The sub-menus appear.
The cursor is positioned on the first setting item.

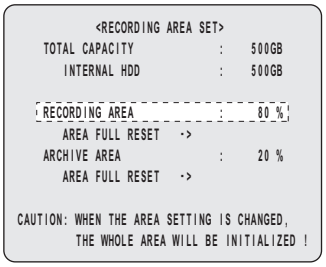



<RECORD SET>
1.NORMAL REC EASY SET ->
2.RECORDING AREA SET ->
3.RECORDING CONDITIONS SET ->
4.NORMAL REC MODE SET ->
5.PROGRAM REC SET ->
6.TIMER SET ->
7.ALARM REC MODE SET ->
8.ALARM OPERATION SET ->
MOVE:JOG SELECT:SHUTTLE

4 Turn the jog dial to select an item and then turn the shuttle dial clockwise.

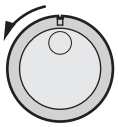
The setting screen is displayed. The cursor is positioned on the first setting item.




<RECORDING AREA SET>
TOTAL CAPACITY : 500GB
INTERNAL HDD : 500GB
RECORDING AREA : 80 %
AREA FULL RESET ->
ARCHIVE AREA : 20 %
AREA FULL RESET ->
CAUTION: WHEN THE AREA SETTING IS CHANGED,
THE WHOLE AREA WILL BE INITIALIZED !

■ To return to the previous menu

Turn the shuttle dial counter-clockwise.

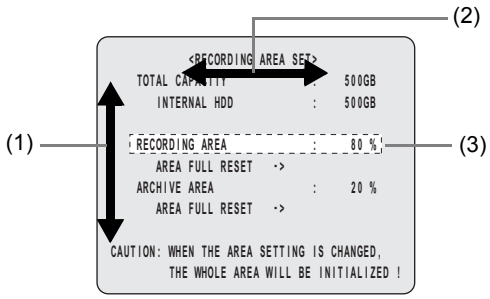


5 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

Movement and confirmation in sub-menus and setting screens

Use the jog dial and shuttle dial to move through the sub-menus and setting screens and to confirm the settings.



(1)	To move the cursor up or down	Turn the jog dial.	
(2)	To move the cursor right or to confirm an item	Turn the shuttle dial clockwise.	
(3)	To change a setting value	Turn the jog dial.	

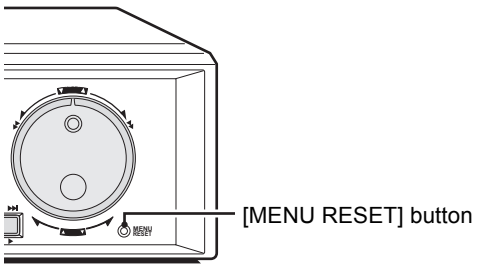
Resetting menu items

Use the following procedure to restore only those items in the displayed setting screen to their default values.

1 Open the menu screen containing the items to be returned to default settings.

2 Press the [MENU RESET] button.

The displayed settings are restored to their default values.

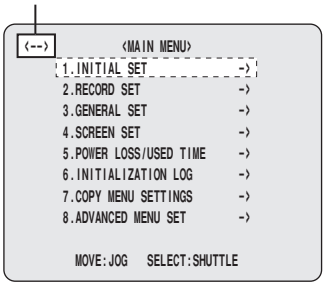


Suspending video recording

You cannot change menu settings during video recording. You must temporarily suspend recording in order to change settings.
If you want to resume recording without changing the current settings, follow the steps below to suspend and resume.

To suspend video recording:
Open the <MAIN MENU> screen, and press and hold the [SHUTTLE HOLD] button for approximately three seconds. The recording lamp goes off and all the recording functions (normal, timer and alarm recordings) switch to the suspend mode. You can change menu settings during the suspend mode.

While recording is suspended, you see the <--> mark displayed on the menu screen.



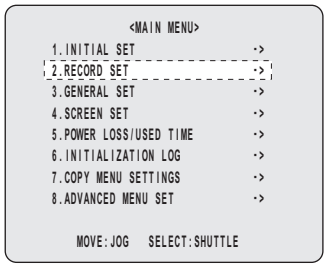
To resume video recording:
Press the [EXIT/OSD] button.
Recording resumes under the same conditions that existed when it was suspended.

CAUTION

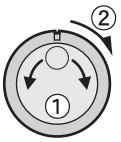
- While the recording is suspended, the digital video recorder does not accept any new recording operation.
- If the menu setting file is uploaded or power supply is interrupted while recording is suspended, the original recording conditions will not be restored.

Sub-menu configuration

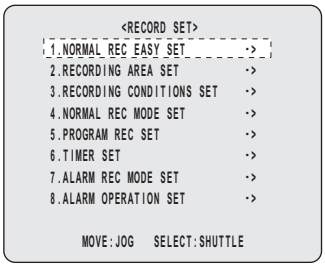
MAIN MENU



Turn the jog dial to select the setting item and then turn the shuttle dial clockwise.

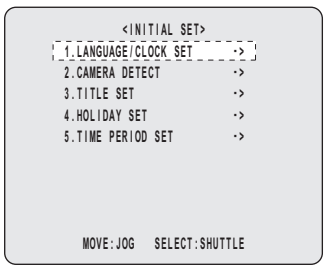


Sub-menus

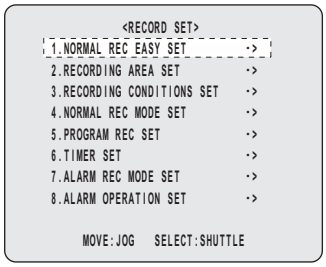

<RECORD SET>
1.NORMAL REC EASY SET ->
2.RECORDING AREA SET ->
3.RECORDING CONDITIONS SET ->
4.NORMAL REC MODE SET ->
5.PROGRAM REC SET ->
6.TIMER SET ->
7.ALARM REC MODE SET ->
8.ALARM OPERATION SET ->
MOVE:JOG SELECT:SHUTTLE

The following settings can be made with the sub-menus.
Press the [MENU] button in any sub-menu to scroll through the sub-menus.

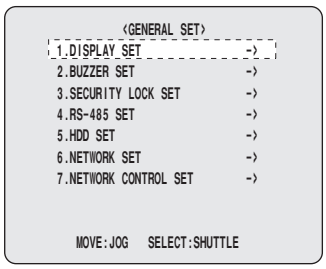
1. INITIAL SET (→P.66)
Sets display language, time, title, holiday, time period and other settings.



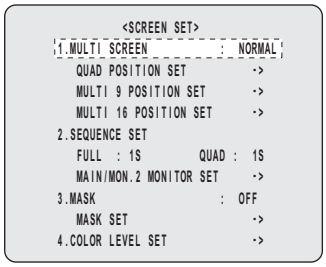
2. RECORD SET (→P.76)
Sets the basic recording settings, hard disk capacity and recording area, overwriting conditions, image quality, recording rate, timer and alarm recording settings, and alarm settings.


<RECORD SET>
1.NORMAL REC EASY SET ->
2.RECORDING AREA SET ->
3.RECORDING CONDITIONS SET ->
4.NORMAL REC MODE SET ->
5.PROGRAM REC SET ->
6.TIMER SET ->
7.ALARM REC MODE SET ->
8.ALARM OPERATION SET ->
MOVE:JOG SELECT:SHUTTLE

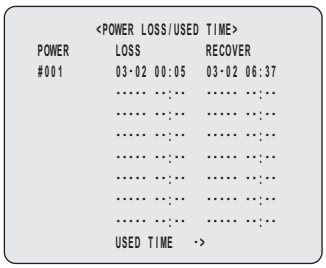
3. GENERAL SET (→P.111)
Sets the monitor display setting, buzzer setting, security lock, RS-485 SETtings, hard disk initialization and mirroring settings, network settings and other settings.



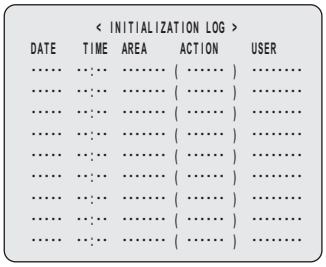
4. SCREEN SET (→P.132)
Sets the camera display position on quad and multi 9/16 screens, automatic camera selection setting, mask setting and color level setting.


<SCREEN SET>
1.MULTI SCREEN : NORMAL
QUAD POSITION SET ->
MULTI 9 POSITION SET ->
MULTI 16 POSITION SET ->
2.SEQUENCE SET
FULL : 1S QUAD : 1S
MAIN/MON.2 MONITOR SET ->
3.MASK : OFF
MASK SET ->
4.COLOR LEVEL SET ->

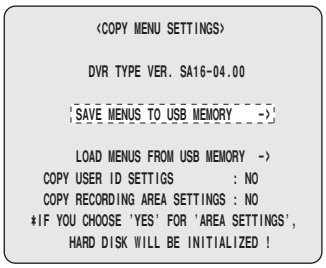
5. POWER LOSS/USED TIME (→P.139)
Displays the date and time of power losses and the amount of hard disk usage.



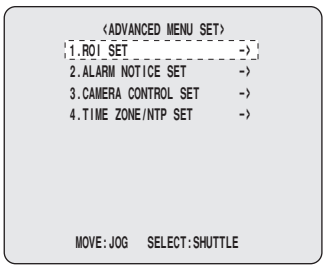
6. INITIALIZATION LOG (→P.140)
Displays a record of hard disk initialization and resetting of recording areas.



7. COPY MENU SETTINGS (→P.141)
Stores and loads menu settings.

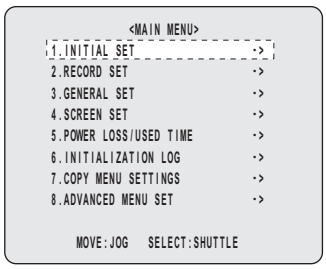

<COPY MENU SETTINGS>
DVR TYPE VER. SA16-04.00
SAVE MENUS TO USB MEMORY ->
LOAD MENUS FROM USB MEMORY ->
COPY USER ID SETTIGS : NO
COPY RECORDING AREA SETTINGS : NO
*IF YOU CHOOSE 'YES' FOR 'AREA SETTINGS',
HARD DISK WILL BE INITIALIZED !

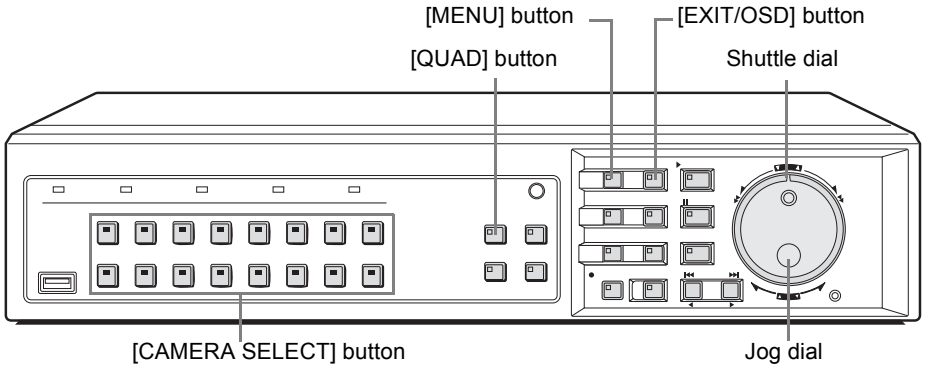
8. ADVANCED MENU SET (→P.144)
Sets the ROI setting, alarm notification by e-mail setting and camera control settings.



1 INITIAL SET

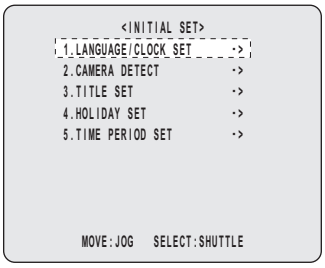
MAIN MENU





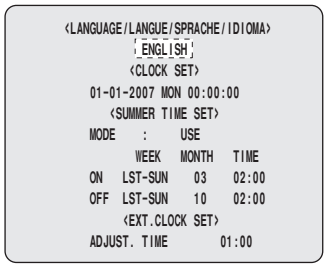
Configuration

The following settings can be made with <INITIAL SET>.



1. LANGUAGE/CLOCK SET

Sets the language displayed on the monitor. (→P.19)
Sets the date and time displayed on the normal screen and summer time. (→P.20, 67) Automatically aligns the time of all digital video recorders when multiple recorders are connected. (→P.68)

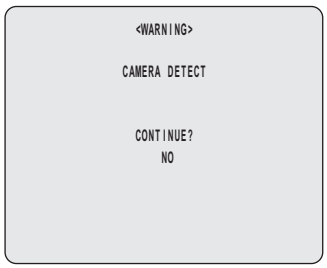


NOTE

- More languages can be added. Contact the dealer for details.

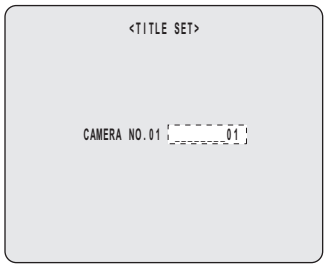
2. CAMERA DETECT (→P.69)

Automatically detects cameras that are connected.



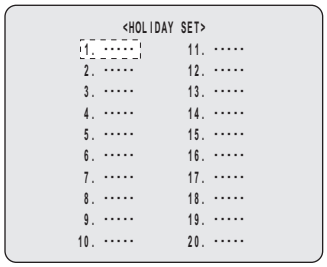
3. TITLE SET (→P.70)

Sets a unique title for each camera so that these can be displayed on-screen.



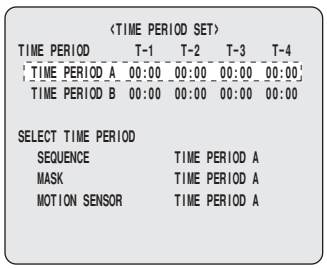
4. HOLIDAY SET (→P.71)

Sets specific dates as holidays to enable the same operation as on Sundays.



5. TIME PERIOD SET (→P.72)

Uses a pair of time periods to set a time band for automatic camera selection and the switching of masking and motion sensor operations.


<TIME PERIOD SET>
TIME PERIOD T-1 T-2 T-3 T-4
TIME PERIOD A 00:00 00:00 00:00 00:00
TIME PERIOD B 00:00 00:00 00:00 00:00
SELECT TIME PERIOD
SEQUENCE TIME PERIOD A
MASK TIME PERIOD A
MOTION SENSOR TIME PERIOD A

Setting the language

Sets the language displayed on the monitor. (→P.19)

Setting the time

Set the time and date of the digital video recorder. (→P.20)

Setting the summer time

Set the start and end date and time for summer time.

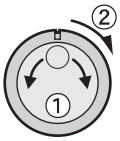
1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

MENU

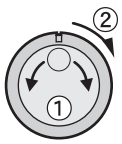
2 Turn the jog dial to select “1.INITIAL SET” and then turn the shuttle dial clockwise.

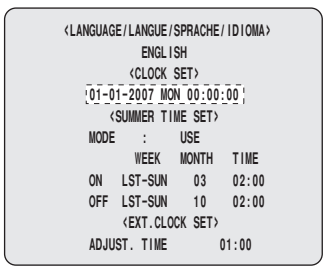
The <INITIAL SET> screen is displayed.



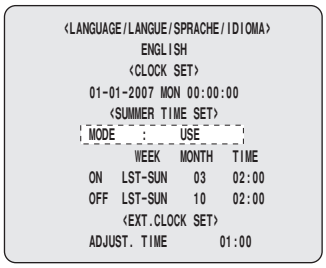
3 Turn the jog dial to select “1.LANGUAGE/CLOCK SET” and then turn the shuttle dial clockwise.

The <LANGUAGE/LANGUE/SPRACHE/IDIOMA> screen is displayed.



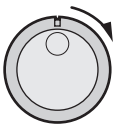


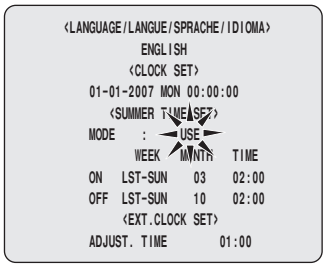
4 Turn the jog dial to select “MODE” under <SUMMER TIME SET>.



5 Turn the shuttle dial clockwise.

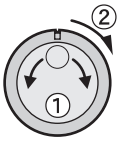
“USE” flashes.

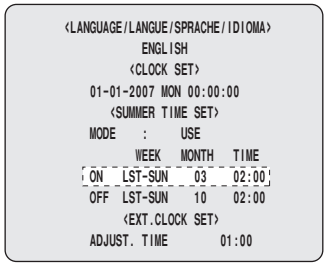




6 Turn the jog dial to select “USE” and then turn the shuttle dial clockwise.

The cursor moves to the date/time at which to switch to summer time.





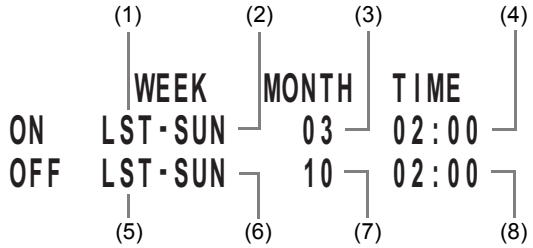
[Settings] (◆ indicates default setting)

Setting	Description
◆USE	Time is automatically adjusted to summer time.
NO USE	Time is not automatically adjusted to summer time.

7 Set the date and time.

Example: Set the summer time to begin at 25 March, 2007, 02:00.
Set the summer time to end 28 October, 2007, 02:00.

The clock display jumps forward one hour from 25 March, 2007, 01:59 to 03:00.
The clock display jumps back one hour from 28 October, 2007, 01:59 to 01:00.



Summer time begins
(1) Week, (2) Day of the week, (3) Month, (4) Time
Summer time ends
(5) Week, (6) Day of the week, (7) Month, (8) Time

(1) Turn the shuttle dial clockwise.
"LST" for "ON" flashes.
(2) Turn the jog dial to select the week summer time begins and then turn the shuttle dial clockwise.
The cursor moves to "SUN" for "ON".
(3) Turn the jog dial to select the day of the week summer time begins and then turn the shuttle dial clockwise.
The cursor moves to "03".
(4) Turn the jog dial to select the month summer time begins and then turn the shuttle dial clockwise.
The cursor moves to "02".
(5) Turn the jog dial to select the hour summer time begins and then turn the shuttle dial clockwise.
The cursor moves to "00".
(6) Turn the jog dial to select the minute summer time begins and then turn the shuttle dial clockwise.
The cursor moves to the end date and time.
(7) Use the same procedure to set the date and time summer time ends.

8 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

EXIT/OSD

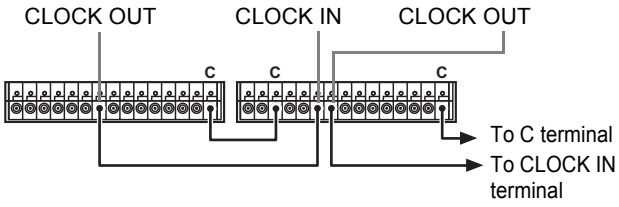
External clock setting

Use the following procedure to align the time of all digital video recorders daily when multiple recorders are connected. (Default setting: OFF)
When time signal is input through the "CLOCK IN" terminal on the rear panel, the internal clock of the digital video recorder is automatically adjusted according to the time signal.

CAUTION

- If you use this function, connect the digital video recorder to an external device that provides an accurate time signal.
- If the time difference is 30 minutes or longer between the input time from the external signal and the time set on the digital video recorder, time adjustment does not take place.
- If you do not use this function, leave the initial setting (OFF) unchanged to prevent malfunction.

1 Connect the CLOCK OUT terminal on the rear of the first digital video recorder to the CLOCK IN of the second recorder.



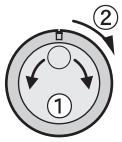
2 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

MENU

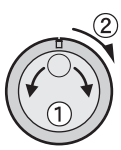
3 Turn the jog dial to select "1.INITIAL SET" and then turn the shuttle dial clockwise.

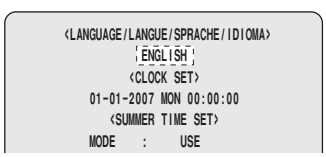
The <INITIAL SET> screen is displayed.



4 Turn the jog dial to select "1.LANGUAGE/CLOCK SET" and then turn the shuttle dial clockwise.

The <LANGUAGE/LANGUE/SPRACHE/IDIOMA> screen is displayed.

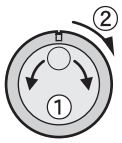


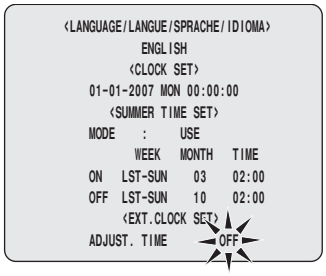


SETTINGS

5 Turn the jog dial to select “ADJUST. TIME” under <EXT. CLOCK SET> and then turn the shuttle dial clockwise.

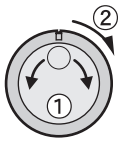
“OFF” (default setting) flashes.

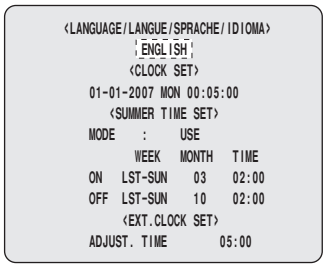




6 Turn the jog dial to select the time and then turn the shuttle dial clockwise.

Example: Set to 05:00.





7 Press the [EXIT/OSD] button.

The setting procedure for the first digital video recorder is ended and the display returns to the normal screen.

EXIT/OSD

8 Use the same procedure to set the time on the second recorder.

CAUTION

- Set the time to the same time of the first digital video recorder.
- If you use the CLOCK OUT (output for time adjustment) / IN (input) terminals to adjust time, use a single power supply for all the digital video recorders. When you shut down the power, do it simultaneously for all the digital video recorders. If you shut down the power separately, the recorders will become unsynchronized.

NOTE

- The minutes and seconds cannot be set for “ADJUST. TIME”.

Detecting connected cameras

Automatically detect connected cameras and adjust the following settings depending on the presence or absence of cameras.

- Program record set (→P.90)
  All settings for programs No. 1-4 are set to “1FPS” for channels with cameras connected and “OFF” for channels with no cameras connected.
- Automatic screen selection time period and monitor settings (→P.134)
  All settings for time periods T1-4 are set to “1S” for channels with cameras connected and “OFF” for channels with no cameras connected.
- Setting masks (→P.136)
  All settings for time period T1 - 4 including main monitor, monitor 2, and network are set to “OFF” for each channel.

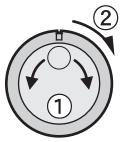
1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

MENU

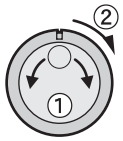
2 Turn the jog dial to select “1.INITIAL SET” and then turn the shuttle dial clockwise.

The <INITIAL SET> screen is displayed.



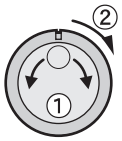
3 Turn the jog dial to select “2.CAMERA DETECT” and then turn the shuttle dial clockwise.

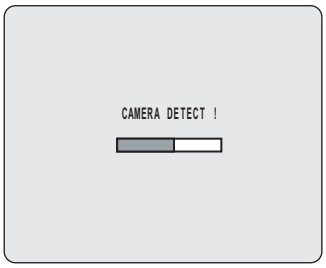
The <WARNING> screen is displayed.



4 Turn the jog dial to select “YES” and then turn the shuttle dial clockwise.

Connected cameras are automatically detected.
When detection is completed, the display returns to the <INITIAL SET> screen.





5 Press the [EXIT/OSD] button.

The display returns to the normal screen.

EXIT/OSD

Setting camera titles

Use the following procedure to set a unique title for each camera so that these titles can be displayed on-screen.

NOTE

- Titles can be up to 10 characters in length per camera. The following characters can be used.
  - Letters: A to Z
  - Numbers: 0 to 9
  - Symbols: - : . / * _ (space)
- Numbers can also be entered by using the [CAMERA SELECT] buttons 1 through 9 or the [QUAD] button.

[CAMERA SELECT] Buttons	Characters that can be entered
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
QUAD	0

- The display limits for monitor 2 camera title is 8 characters for multi 9 screen display and 6 characters for multi 16 screen display.

Example: Setting the title “HALL-1STFL” for Camera No. 3.

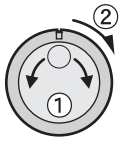
1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

MENU

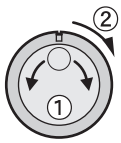
2 Turn the jog dial to select “1.INITIAL SET” and then turn the shuttle dial clockwise.

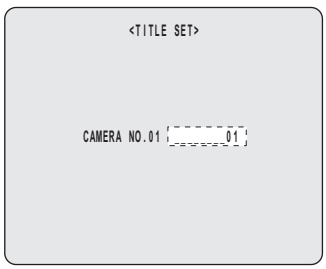
The <INITIAL SET> screen is displayed.



3 Turn the jog dial to select “3.TITLE SET” and then turn the shuttle dial clockwise.

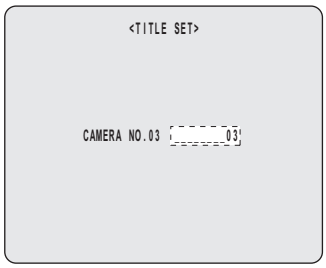
The title setting field is displayed on the monitoring screen.
The default setting is “-----01” (camera No.).





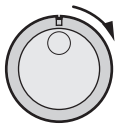
4 Press the No. 3 [CAMERA SELECT] button.

The video from Camera No. 3 is displayed on-screen.



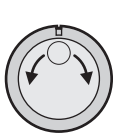
5 Turn the shuttle dial clockwise.

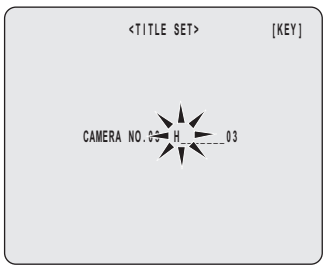
The first character position in the title flashes.

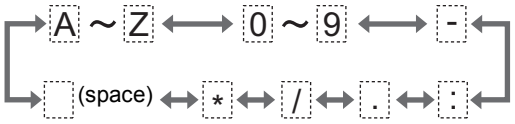


6 Turn the jog dial to select “H”.

Characters change in the following sequence as the jog dial is turned.

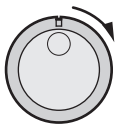






7 Turn the shuttle dial clockwise.

The character is set and the cursor moves one position to the right.



NOTE

- When changing a character in the title, move the cursor to that character by turning the shuttle dial clockwise or counter-clockwise and then re-enter the character.

8 Repeat the above steps to enter the remaining characters.

9 Press [EXIT/OSD] button after all digits are set.

The setting is completed and the display returns to the normal screen.

EXIT/OSD

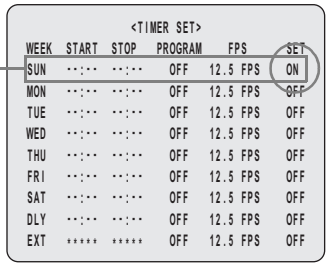
Setting holidays

Use the following procedure to set specific dates as holidays to enable the same timer recording operation for Sunday to be used on those days.
Dates such as national holidays and company holidays should be set as holidays when those dates are to have the same security as Sundays.

CAUTION

- Be sure to always switch “SET” to “ON” after completing timer settings for Sunday. (→P.191)

Settings for Sunday


<TIMER SET>
WEEK START STOP PROGRAM FPS SET
SUN --:-- --:-- OFF 12.5 FPS ON
MON --:-- --:-- OFF 12.5 FPS OFF
TUE --:-- --:-- OFF 12.5 FPS OFF
WED --:-- --:-- OFF 12.5 FPS OFF
THU --:-- --:-- OFF 12.5 FPS OFF
FRI --:-- --:-- OFF 12.5 FPS OFF
SAT --:-- --:-- OFF 12.5 FPS OFF
DLY --:-- --:-- OFF 12.5 FPS OFF
EXT ***** ***** OFF 12.5 FPS OFF

Example: Setting 26 October as a holiday

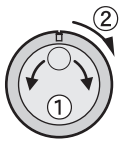
1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

MENU

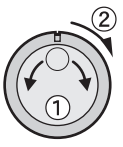
2 Turn the jog dial to select “1.INITIAL SET” and then turn the shuttle dial clockwise.

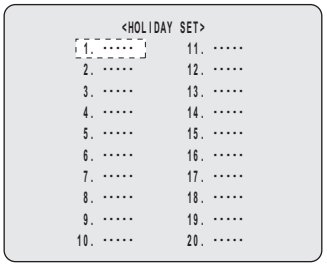
The <INITIAL SET> screen is displayed.



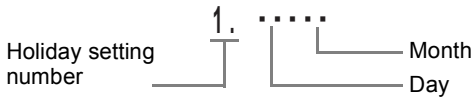
3 Turn the jog dial to select “4.HOLIDAY SET” and then turn the shuttle dial clockwise.

The <HOLIDAY SET> screen is displayed.
The default setting is “-----”.





4 Set the day and month for item 1.



(1) Turn the shuttle dial clockwise.
"--" (day) flashes.

1. ·····

(2) Turn the jog dial to select "26" and then turn the shuttle dial clockwise.
"--" (month) flashes.

1. 26···

(3) Turn the jog dial to select "10" and then turn the shuttle dial clockwise.
The cursor moves to "2".

1. 26·10
2. ·····

5 Use the same procedure to set other holidays.

6 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

EXIT/OSD

CAUTION

- If a day is selected in February, April, June, September or November that does not exist (see table below), this is changed automatically to the last day of the month.

Month	Non-existent day	Day changed to (last day of the month)
2	30, 31	29
4, 6, 9, 11	31	30

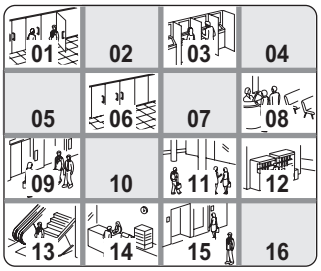
Setting time periods

Use the following procedure to specify four different time periods per day (for instance, early morning, morning, lunchtime and evening) to set up automatic screen selection, masking and motion sensor operations, and other operations. Use TIME PERIOD A and TIME PERIOD B to make operation settings. For example, it is possible to set TIME PERIOD A for automatic screen selection and TIME PERIOD B for the masking of monitor video using a gray pattern.

Example: For DSR-5716P

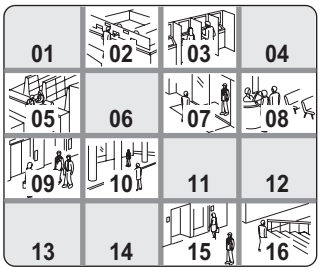
■ Morning to lunchtime: 6:00 to 11:00

Cameras No. 2, 4, 5, 7, 10 and 16 are masked.



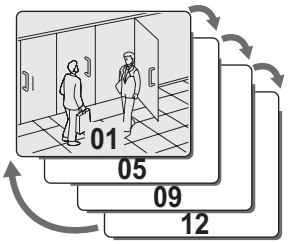
■ Lunchtime: 11:00 to 13:00

Cameras No. 1, 4, 6, 11, 12, 13 and 14 are masked.



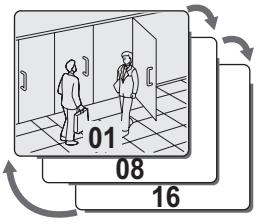
■ Lunchtime to evening: 13:00 to 20:00

Automatic selection is performed for Cameras No. 1, 5, 9 and 12.



■ Evening to morning: 20:00 to 6:00

Automatic selection is performed for Cameras No. 1, 8 and 16.



The above examples are set as follows.

<TIME PERIOD SET> screen
- **TIME PERIOD A**
  T-1=6:00, T-2=13:00, T-3=20:00, T-4=00:00
- **TIME PERIOD B**
  T-1=6:00, T-2=11:00, T-3=13:00, T-4=00:00
- **SEQUENCE**
  “TIME PERIOD A”
- **MASK**
  “TIME PERIOD B”

<MAIN/MON.2 MONITOR SET> screen
- **T-1**
  All “OFF”
- **T-2**
  “OFF” except cameras No. 1, 5, 9 and 12
- **T-3**
  “OFF” except cameras No. 1, 8 and 16

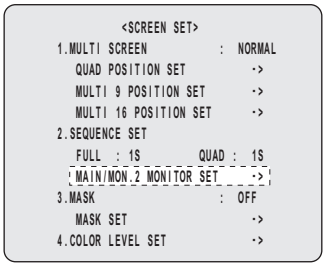
<MASK SET> screen
- **T-1**
  “ON” for cameras No. 2, 4, 5, 7, 10 and 16.
- **T-2**
  “ON” for cameras No. 1, 4, 6, 11, 12, 13 and 14.
- **T-3**
  All “OFF”

Operations during the specified time periods

The following menu settings must be made to enable operation of the time periods. After completing these settings, be sure to then carry out the timer setting.

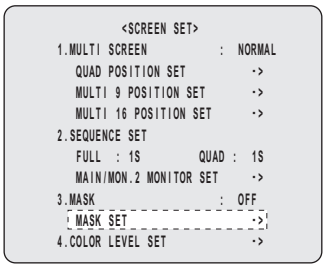
■ Setting automatic selection of camera video

Select the camera to be automatically selected to display video and set the switching interval.
To do this, set “SEQUENCE SET” from the <SCREEN SET> screen. (→P.134)



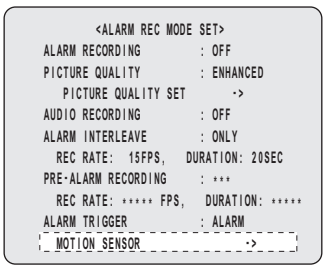
■ Masking camera video using a gray pattern

Use “MASK” from the <SCREEN SET> screen to specify which cameras are to be displayed on the monitor and which are not. (→P.136)



■ Alarm recording using motion sensors

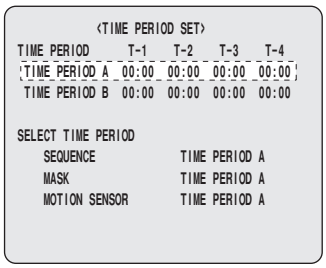
Set “MOTION SENSOR” from the <ALARM REC MODE SET> screen. (→P.105)


<ALARM REC MODE SET>
ALARM RECORDING : OFF
PICTURE QUALITY : ENHANCED
PICTURE QUALITY SET ->
AUDIO RECORDING : OFF
ALARM INTERLEAVE : ONLY
REC RATE: 15FPS, DURATION: 20SEC
PRE-ALARM RECORDING : ***
REC RATE: ***** FPS, DURATION: *****
ALARM TRIGGER : ALARM
MOTION SENSOR ->
MOTION SENSOR

Timer period settings

Example 1: Setting periods using TIME PERIOD A and TIME PERIOD B

- **TIME PERIOD A**
  T-1=6:00
  T-2=11:30
  T-3=13:30
  T-4=18:00
- **TIME PERIOD B**
  T-1=6:00
  T-2=8:00
  T-3=14:30
  T-4=20:00

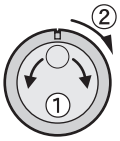

‹TIME PERIOD SET›
TIME PERIOD T-1 T-2 T-3 T-4
TIME PERIOD A 00:00 00:00 00:00 00:00
TIME PERIOD B 00:00 00:00 00:00 00:00
SELECT TIME PERIOD
SEQUENCE TIME PERIOD A
MASK TIME PERIOD A
MOTION SENSOR TIME PERIOD A

1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

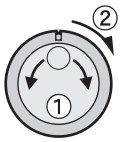
2 Turn the jog dial to select “1.INITIAL SET” and then turn the shuttle dial clockwise.

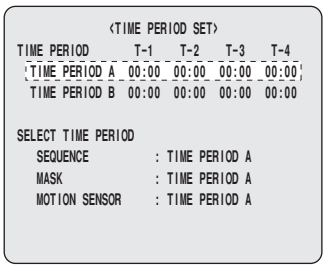
The <INITIAL SET> screen is displayed.



3 Turn the jog dial to select “5.TIME PERIOD SET” and then turn the shuttle dial clockwise.

The <TIME PERIOD SET> screen is displayed.

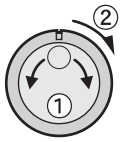


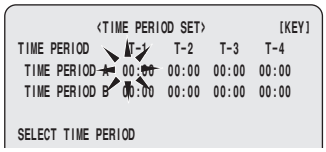

‹TIME PERIOD SET›
TIME PERIOD T-1 T-2 T-3 T-4
TIME PERIOD A 00:00 00:00 00:00 00:00
TIME PERIOD B 00:00 00:00 00:00 00:00
SELECT TIME PERIOD
SEQUENCE : TIME PERIOD A
MASK : TIME PERIOD A
MOTION SENSOR : TIME PERIOD A

For both TIME PERIOD A and TIME PERIOD B, all settings are “00:00” by default setting.

4 Turn the jog dial to select “TIME PERIOD A” and then turn the shuttle dial clockwise.

“00:” for T-1 flashes (indicating the hour).



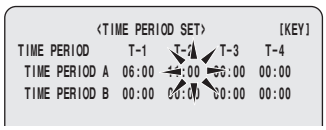

‹TIME PERIOD SET› [KEY]
TIME PERIOD T-1 T-2 T-3 T-4
TIME PERIOD A 00:00 00:00 00:00 00:00
TIME PERIOD B 00:00 00:00 00:00 00:00
SELECT TIME PERIOD

5 Set the time for T-1.

(1) Turn the jog dial to select “06” and then turn the shuttle dial clockwise.
“:00” for T-1 flashes (indicating the minutes).
(2) Turn the shuttle dial clockwise.
“00:” for T-2 flashes (indicating the hour).

6 Set the time for T-2.

(1) Turn the jog dial to select “11” and then turn the shuttle dial clockwise.
“:00” for T-2 flashes (indicating the minutes).



(2) Turn the jog dial to select “30” and then turn the shuttle dial clockwise.
“00:” for T-3 flashes (indicating the hour).

7 Use the same procedure to set the hour and minutes for T-3 and T-4.

8 Use the same procedure to set the hour and minutes for T-1 to T-4 in TIME PERIOD B.

CAUTION

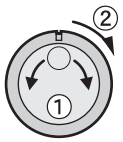
- Settings for T-1 through T-4 cannot be made in such a way that they extend over two days (i.e., include midnight). If “00:00” (midnight) must be set, this should be done using T-1.
  Any setting of “00:00” for T-2 through T-4 is skipped.
  Example: T-1 T-2 T-3 T-4
  06:00 12:00 18:00 00:00
  In the above example, T-4 (00:00) is skipped and T-3 operates between 18:00 and 06:00.
- Furthermore, when T-1 through T-4 are all set to “00:00”, all but T-1 are ignored and T-1 operates from midnight to midnight the next day.

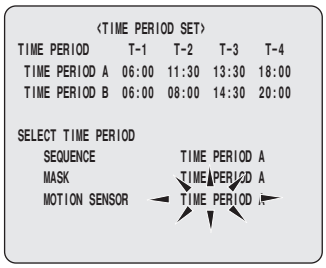
Timer period operations settings

Example 2: Setting time period operation as follows.
Automatic selection and monitor masking for “TIME PERIOD A”. (default setting)
Motion sensing for “TIME PERIOD B”.

9 Turn the jog dial to select “MOTION SENSOR” within “SELECT TIME PERIOD” and then turn the shuttle dial clockwise.

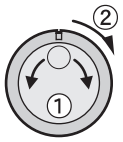
“TIME PERIOD A” flashes.

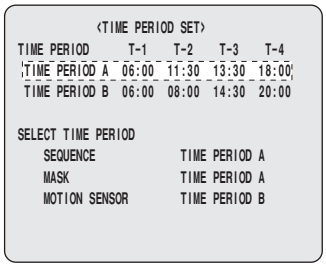



‹TIME PERIOD SET›
TIME PERIOD T-1 T-2 T-3 T-4
TIME PERIOD A 06:00 11:30 13:30 18:00
TIME PERIOD B 06:00 08:00 14:30 20:00
SELECT TIME PERIOD
SEQUENCE TIME PERIOD A
MASK TIME PERIOD A
MOTION SENSOR TIME PERIOD A

10 Turn the jog dial to select “TIME PERIOD B” and then turn the shuttle dial clockwise.

The cursor moves to “TIME PERIOD A”.




‹TIME PERIOD SET›
TIME PERIOD T-1 T-2 T-3 T-4
TIME PERIOD A 06:00 11:30 13:30 18:00
TIME PERIOD B 06:00 08:00 14:30 20:00
SELECT TIME PERIOD
SEQUENCE TIME PERIOD A
MASK TIME PERIOD A
MOTION SENSOR TIME PERIOD B

[Settings] (◆ indicates default setting)

Setting	Description
◆TIME PERIOD A	Applies the setting of “TIME PERIOD A”
TIME PERIOD B	Applies the setting of “TIME PERIOD B”
ALL DAY LONG	Applies the same setting for a whole day, rather than different settings for different times. ● SEQUENCE, MASK: Fixed to “T1 (00:00 - 24:00)”. ● MOTION SENSOR: Depends on the setting of “T1”.

11 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

EXIT/OSD

NOTE

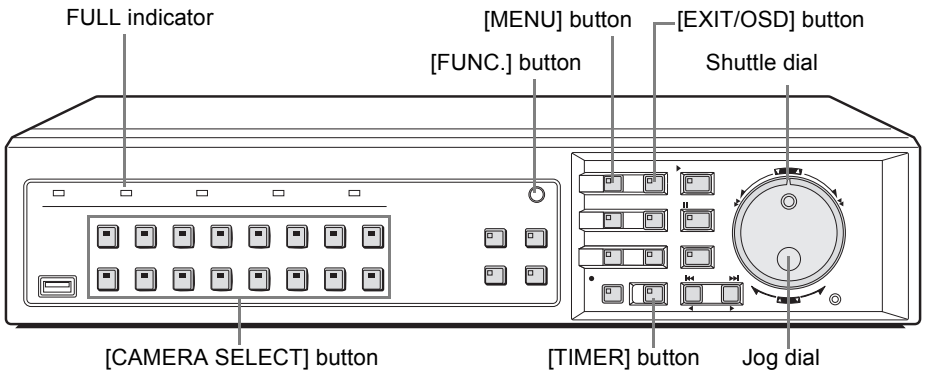
- Automatic selection, masking, and motion sensors are all set to “TIME PERIOD A” by default setting.
- For the above settings, “SEQUENCE” indicates automatic screen selection period and monitor settings (→P.134), “MASK” indicates mask settings (→P.136), and “MOTION SENSOR” indicates motion sensor settings (→P.105).

2 RECORD SET

MAIN MENU

```
<MAIN MENU>
1.INITIAL SET                ->
2.RECORD SET                 ->
3.GENERAL SET                ->
4.SCREEN SET                 ->
5.POWER LOSS/USED TIME       ->
6.INITIALIZATION LOG         ->
7.COPY MENU SETTINGS         ->
8.ADVANCED MENU SET          ->

   MOVE:JOG   SELECT:SHUTTLE
```



Configuration

The following settings can be made with <RECORD SET>.

```
<RECORD SET>
1.NORMAL REC EASY SET        ->
2.RECORDING AREA SET         ->
3.RECORDING CONDITIONS SET   ->
4.NORMAL REC MODE SET        ->
5.PROGRAM REC SET            ->
6.TIMER SET                  ->
7.ALARM REC MODE SET         ->
8.ALARM OPERATION SET        ->

   MOVE:JOG   SELECT:SHUTTLE
```

1. NORMAL REC EASY SET (→P.77)

Makes basic settings based on a number of days or a recording rate.

```
<NORMAL REC EASY SET>

 RECORDING DURATION BASE     ->

 REC RATE BASE               ->


          CAUTION !
    CONNECT CAMERA AND SET TIME
    BEFORE SETUP
```

2. RECORDING AREA SET (→P.82)

Displays the total capacity of the hard disk and sets the ratio of the recording area to the archive area.

```
<RECORDING AREA SET>
 TOTAL CAPACITY        :  1200GB
   INTERNAL HDD        :   500GB
   EXTERNAL HDD        :   700GB
 RECORDING AREA        :    80 %
   AREA FULL RESET  ->
 ARCHIVE AREA          :    20 %
   AREA FULL RESET  ->

CAUTION: WHEN THE AREA SETTING IS CHANGED,
         THE WHOLE AREA WILL BE INITIALIZED !
```

3. RECORDING CONDITIONS SET (→P.85)

Sets whether overwriting is performed (by deleting old video) or recording is stopped when the hard disk recording areas become full. Also sets the auto delete.

```
<RECORDING CONDITIONS SET>
RECORDING AREA
 OVERWRITE          : ON
ARCHIVE AREA
  MODE              : MANUAL COPY

REMAINING DISK WARNING  : 1%

AUTO DELETE         : OFF
```

4. NORMAL REC MODE SET (→P.88)

Sets the picture quality, audio recording, recording rate, and program period.

```
<NORMAL REC MODE SET>
 PICTURE QUALITY        : ENHANCED
   PICTURE QUALITY SET     ->
 AUDIO RECORDING        : OFF
 REC RATE   :  12.5 FPS (  166H)
 REC PROGRAM GROUP      : OFF
```

5. PROGRAM REC SET (→P.90)

Sets program recording for cameras.

```
<PROGRAM REC SET>

          PROGRAM : P-1
  SELECT INDIVIDUAL CAMERA RATE (FPS)
01:1    02:1    03:1    04:1
05:1    06:1    07:1    08:1
09:1    10:1    11:1    12:1
13:1    14:1    15:1    16:1

          NORMAL REC :   57H
```

6. TIMER SET (→P.92)

Makes timer settings so that operations can be started at a specified time or on a specified day.

```
<TIMER SET>
WEEK  START  STOP   PROGRAM   FPS       SET
SUN   --:--  --:--   OFF   12.5 FPS    OFF
MON   --:--  --:--   OFF   12.5 FPS    OFF
TUE   --:--  --:--   OFF   12.5 FPS    OFF
WED   --:--  --:--   OFF   12.5 FPS    OFF
THU   --:--  --:--   OFF   12.5 FPS    OFF
FRI   --:--  --:--   OFF   12.5 FPS    OFF
SAT   --:--  --:--   OFF   12.5 FPS    OFF
DLY   --:--  --:--   OFF   12.5 FPS    OFF
EXT   *****  *****   OFF   12.5 FPS    OFF
```

7. ALARM REC MODE SET (→P.98)

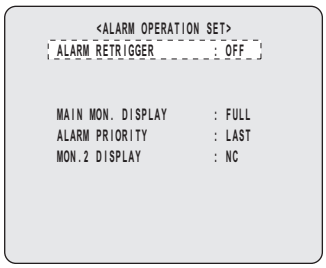
Sets alarm recording, pre-alarm recording, and motion sensors.

```
<ALARM REC MODE SET>
 ALARM RECORDING        : OFF
 PICTURE QUALITY        : ENHANCED
   PICTURE QUALITY SET     ->
 AUDIO RECORDING        : OFF
 ALARM INTERLEAVE       : ONLY
   REC RATE: 12.5FPS,   DURATION: 20SEC
 PRE-ALARM RECORDING    : ###
   REC RATE: ##### FPS,  DURATION: #####
 ALARM TRIGGER          : ALARM
   MOTION SENSOR           ->
```

SETTINGS

8. ALARM OPERATION SET (→P.108)

Makes settings for operation and display upon detecting an alarm.



Normal recording easy setup

Use the following procedure to make simple recording settings. Two different setting methods may be used -- one based on recording days, the other based on recording rate.

CAUTION

- When easy setup settings and individual settings are both set, the most recent settings override previous settings.
- Easy setup settings are cancelled as a result of the following operations.

(1) When the number of cameras detected using “CAMERA DETECT” differs from the number of cameras previously set in the digital video recorder.
(2) When menu settings are loaded from a USB memory.
(3) When a new easy setup setting is performed.
(4) When setting values are changed for normal recording or timer recording.
(5) When the recording area is changed using the <RECORDING AREA SET> screen.
(6) When the mirroring setting is changed using the <HDD SET> screen.
(7) When replacing or expanding the hard disk.

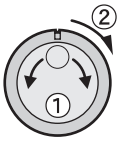
Setting based on recording days

1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

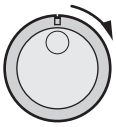
2 Turn the jog dial to select “2.RECORD SET” and then turn the shuttle dial clockwise.

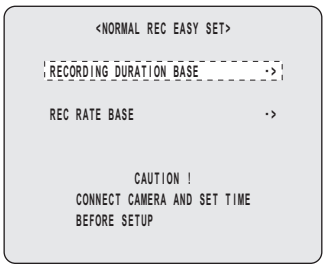
The <RECORD SET> screen is displayed.



3 Turn the jog dial to select “1.NORMAL REC EASY SET” and then turn the shuttle dial clockwise.

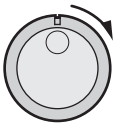
The <NORMAL REC EASY SET> screen is displayed.

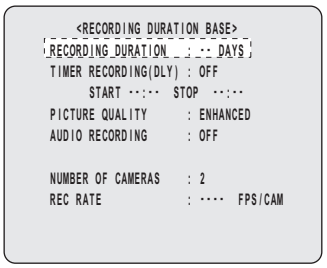




4 Turn the jog dial to select “RECORDING DURATION BASE” and then turn the shuttle dial clockwise.

The <RECORDING DURATION BASE> screen is displayed. The number of detected cameras is indicated by “NUMBER OF CAMERAS”.



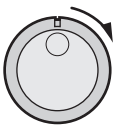


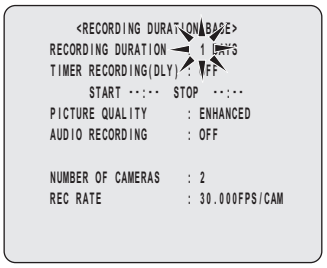
CAUTION

- Confirm that the number of cameras connected to the digital video recorder is the same as the number of displayed recording cameras. If this is not the case, check the wiring between cameras and the digital video recorder and then perform “CAMERA DETECT”. (→P.69)

5 Turn the shuttle dial clockwise.

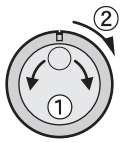
“1” flashes.

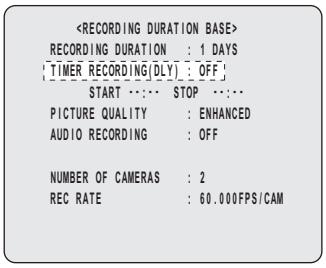




6 Turn the jog dial to select the "RECORDING DURATION" setting and then turn the shuttle dial clockwise.

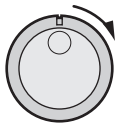
The cursor moves to "TIMER RECORDING (DLY)".

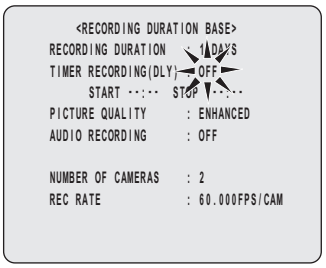




7 Turn the shuttle dial clockwise.

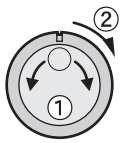
"OFF" flashes.

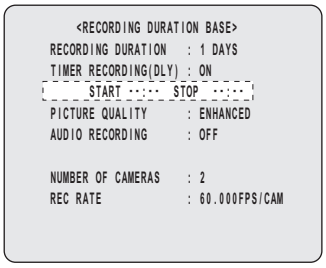




8 To activate timer operation, turn the jog dial to select "ON" and then turn the shuttle dial clockwise.

The cursor moves to "START".





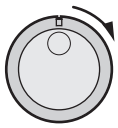
9 Set the time for timer recording.

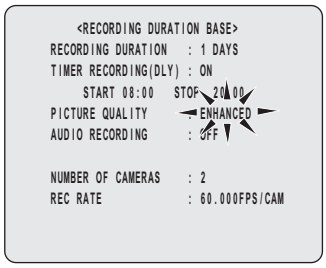
Example: Timer recording from 8 AM to 8 PM

(1) Turn the shuttle dial clockwise and then turn the jog dial to select "08" (hour).
(2) Turn the shuttle dial clockwise and then turn the jog dial to select "00" (minutes).
(3) Turn the shuttle dial clockwise and then turn the jog dial to select "20" (hour).
(4) Turn the shuttle dial clockwise, turn the jog dial to select "00" (minutes) and then turn the shuttle dial clockwise again.
The cursor moves to "PICTURE QUALITY".

10 Turn the shuttle dial clockwise.

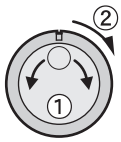
"ENHANCED" flashes.

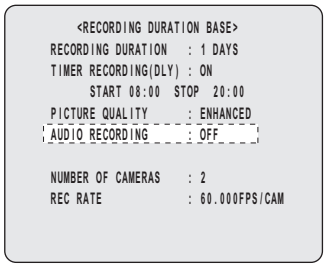




11 Turn the jog dial to select the "PICTURE QUALITY" setting and then turn the shuttle dial clockwise.

The cursor moves to "AUDIO RECORDING".



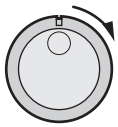


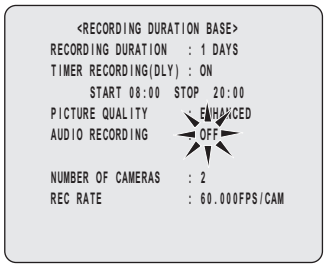
[Settings] (◆ indicates default setting)

Setting	Description
BASIC	Basic
NORMAL	Normal
◆ENHANCED	Enhanced
FINE	Fine
SUPER FINE	Super Fine

12 Turn the shuttle dial clockwise.

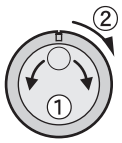
"OFF" flashes.

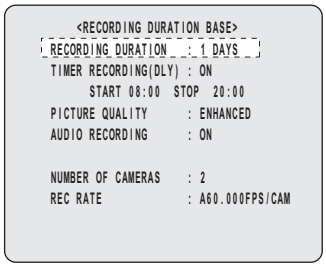




13 Turn the jog dial to select “ON” or “OFF” and then turn the shuttle dial clockwise.

Example: ON





[Settings] (◆ indicates default setting)

Setting	Description
◆OFF	Audio is not recorded.
ON	Audio is recorded.

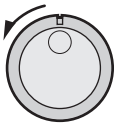
(For recording rates that do not support audio recording, “--” is displayed.)

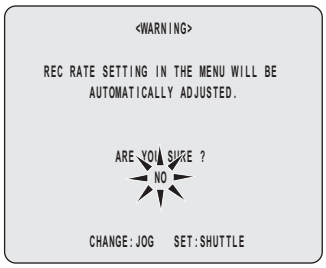
NOTE

- Audio recording can only be specified when the recording rate is 1 FPS or greater.
- When set to “ON”, the letter “A” (indicating that audio is recorded) is displayed in front of the recording rate. As both video and audio is stored in the recording area, the recording capacity decreases.

14 Turn the shuttle dial counter-clockwise.

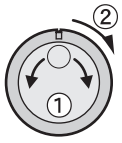
The <WARNING> screen is displayed.





15 Turn the jog dial to select “YES” and then turn the shuttle dial clockwise.

The display returns to the <NORMAL REC EASY SET> screen.



16 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

EXIT/OSD

CAUTION

- The recording rate is automatically calculated based on recording settings and the number of connected cameras, and this is indicated by “REC RATE”. All cameras record at this rate. If a valid figure cannot be calculated, “ERROR!” is displayed.
- When easy setup settings and individual settings are both set, the most recent settings override previous settings.
- Easy setup settings cannot be used with program recording or day-specific timer recording.

Setting based on recording rate

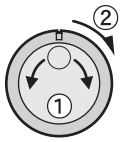
1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

MENU

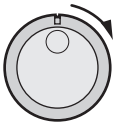
2 Turn the jog dial to select “2.RECORD SET” and then turn the shuttle dial clockwise.

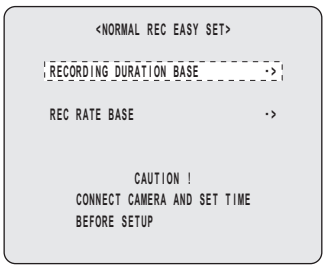
The <RECORD SET> screen is displayed.



3 Turn the jog dial to select “1.NORMAL REC EASY SETUP” and then turn the shuttle dial clockwise.

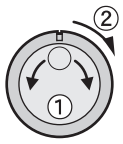
The <NORMAL REC EASY SET> screen is displayed.

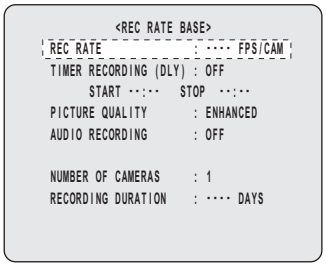




4 Turn the jog dial to select “REC RATE BASE” and then turn the shuttle dial clockwise.

The <REC RATE BASE> screen is displayed.
The number of detected cameras is indicated by “NUMBER OF CAMERAS”.



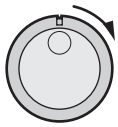

<REC RATE BASE>
REC RATE : ···· FPS/CAM
TIMER RECORDING (DLY) : OFF
START ··:·· STOP ··:··
PICTURE QUALITY : ENHANCED
AUDIO RECORDING : OFF
NUMBER OF CAMERAS : 1
RECORDING DURATION : ···· DAYS

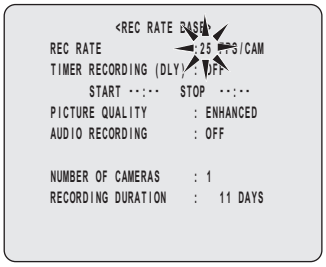
CAUTION

- Confirm that the number of cameras connected to the digital video recorder is the same as the number of displayed recording cameras. If this is not the case, check the wiring between cameras and the digital video recorder and then perform “CAMERA DETECT”. (→P.69)

5 Turn the shuttle dial clockwise.

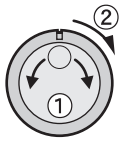
“25” flashes.

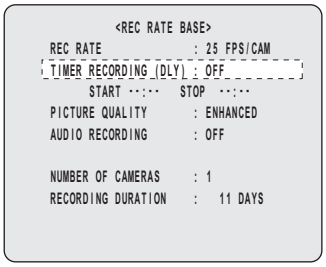



<REC RATE BASE>
REC RATE : 25 FPS/CAM
TIMER RECORDING (DLY) : OFF
START ··:·· STOP ··:··
PICTURE QUALITY : ENHANCED
AUDIO RECORDING : OFF
NUMBER OF CAMERAS : 1
RECORDING DURATION : 11 DAYS

6 Turn the jog dial to select the “REC RATE” setting and then turn the shuttle dial clockwise.

The cursor moves to “TIMER RECORDING (DLY)”.
Set the recording rate for each individual camera.




<REC RATE BASE>
REC RATE : 25 FPS/CAM
TIMER RECORDING (DLY) : OFF
START ··:·· STOP ··:··
PICTURE QUALITY : ENHANCED
AUDIO RECORDING : OFF
NUMBER OF CAMERAS : 1
RECORDING DURATION : 11 DAYS

[Settings] (“----” indicates default setting)

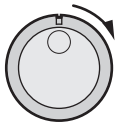
Setting	Description
25, 16.67, 12.5, 8.333, 6.25, 5, 4.167, 3.571, 3.125, 2.778, 2.5, 2.273, 1.923, 1.667, 1.471, 1.316, 1.19, 1.087, 1, 0.5, 0.333, 0.25, 0.2, 0.1, 0.05, 0.033	Recording is performed at the selected recording rate (unit: FPS).

CAUTION

- Available recording rates differ depending on the number of cameras connected.
  The table above indicates recording rates that are available when one camera is connected.
- When mirroring or pre-alarm recording is set to “ON”, recording rates that can be set are limited.

7 Turn the shuttle dial clockwise.

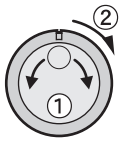
“OFF” flashes.

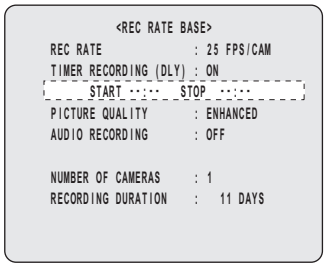


<REC RATE BASE>
REC RATE : 25 FPS/CAM
TIMER RECORDING (DLY) : OFF
START ··:·· STOP ··:··
PICTURE QUALITY : ENHANCED
AUDIO RECORDING : OFF
NUMBER OF CAMERAS : 1
RECORDING DURATION : 11 DAYS

8 To activate timer operation, turn the jog dial to select “ON” and then turn the shuttle dial clockwise.

The cursor moves to “START”.

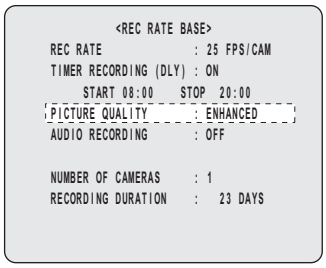



<REC RATE BASE>
REC RATE : 25 FPS/CAM
TIMER RECORDING (DLY) : ON
START ··:·· STOP ··:··
PICTURE QUALITY : ENHANCED
AUDIO RECORDING : OFF
NUMBER OF CAMERAS : 1
RECORDING DURATION : 11 DAYS

9 Set the time for timer recording.

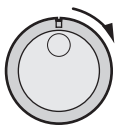
Example: Timer recording from 8 AM to 8 PM

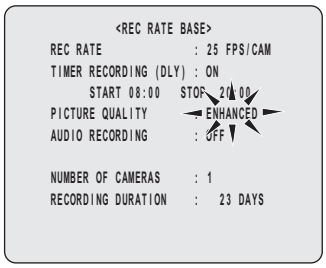
(1) Turn the shuttle dial clockwise and then turn the jog dial to select “08” (hour).
(2) Turn the shuttle dial clockwise and then turn the jog dial to select “00” (minutes).
(3) Turn the shuttle dial clockwise and then turn the jog dial to select “20” (hour).
(4) Turn the shuttle dial clockwise, turn the jog dial to select “00” (minutes) and then turn the shuttle dial clockwise again.
The cursor moves to “PICTURE QUALITY”.


<REC RATE BASE>
REC RATE : 25 FPS/CAM
TIMER RECORDING (DLY) : ON
START 08:00 STOP 20:00
PICTURE QUALITY : ENHANCED
AUDIO RECORDING : OFF
NUMBER OF CAMERAS : 1
RECORDING DURATION : 23 DAYS

10 Turn the shuttle dial clockwise.

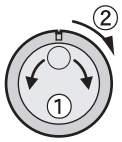
“ENHANCED” flashes.

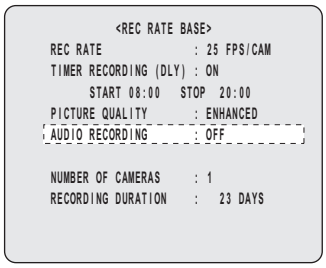



<REC RATE BASE>
REC RATE : 25 FPS/CAM
TIMER RECORDING (DLY) : ON
START 08:00 STOP 20:00
PICTURE QUALITY : ENHANCED
AUDIO RECORDING : OFF
NUMBER OF CAMERAS : 1
RECORDING DURATION : 23 DAYS

11 Turn the jog dial to select the “PICTURE QUALITY” setting and then turn the shuttle dial clockwise. (→P.78)

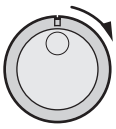
The cursor moves to “AUDIO RECORDING”.

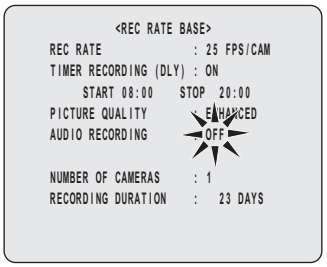



<REC RATE BASE>
REC RATE : 25 FPS/CAM
TIMER RECORDING (DLY) : ON
START 08:00 STOP 20:00
PICTURE QUALITY : ENHANCED
AUDIO RECORDING : OFF
NUMBER OF CAMERAS : 1
RECORDING DURATION : 23 DAYS

12 Turn the shuttle dial clockwise.

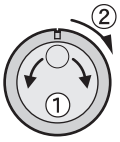
“OFF” flashes.

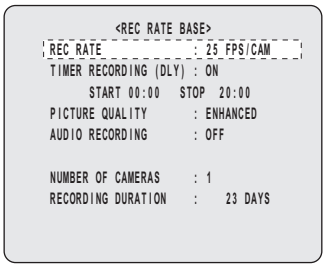



<REC RATE BASE>
REC RATE : 25 FPS/CAM
TIMER RECORDING (DLY) : ON
START 08:00 STOP 20:00
PICTURE QUALITY : ENHANCED
AUDIO RECORDING : OFF
NUMBER OF CAMERAS : 1
RECORDING DURATION : 23 DAYS

13 Turn the jog dial to select “ON” or “OFF” and then turn the shuttle dial clockwise. (→P.79)

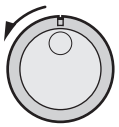
For recording rates that do not support audio recording, “--” is displayed.

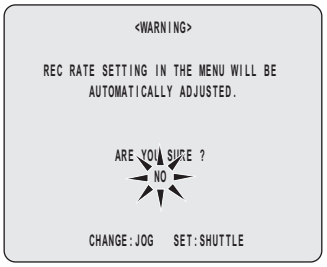



<REC RATE BASE>
REC RATE : 25 FPS/CAM
TIMER RECORDING (DLY) : ON
START 00:00 STOP 20:00
PICTURE QUALITY : ENHANCED
AUDIO RECORDING : OFF
NUMBER OF CAMERAS : 1
RECORDING DURATION : 23 DAYS

14 Turn the shuttle dial counter-clockwise.

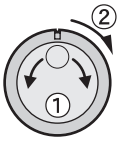
The <WARNING> screen is displayed.

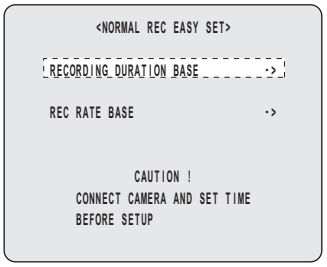




15 Turn the jog dial to select “YES” and then turn the shuttle dial clockwise.

The display returns to the <NORMAL REC EASY SET> screen.





16 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

EXIT/OSD

CAUTION

- The recording duration is automatically calculated based on recording settings and the number of connected cameras, and this is indicated by “RECORDING DURATION”. If a valid figure cannot be calculated, “ERROR!” is displayed.
- When easy setup settings and individual settings are both set, the most recent settings override previous settings.
- Easy setup settings cannot be used with program recording or day-specific timer recording.

Displaying the recording areas

Use the following procedures to confirm the hard disk’s total recording capacity and also the allocation for each recording area.

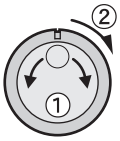
1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

MENU

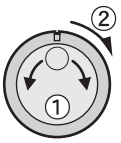
2 Turn the jog dial to select “2.RECORD SET” and then turn the shuttle dial clockwise.

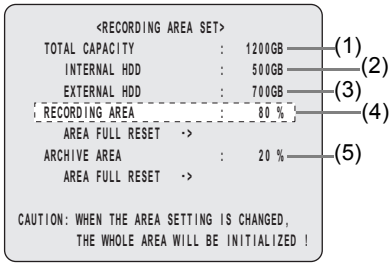
The <RECORD SET> screen is displayed.

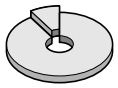
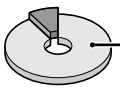
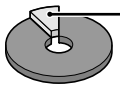


3 Turn the jog dial to select “2.RECORDING AREA SET” and then turn the shuttle dial clockwise.

The <RECORDING AREA SET> screen is displayed.





(1)	Displays the total capacity of the hard disk.	
(2)	Displays the internal hard disk capacity.	
(3)	Displays the expansion unit hard disk capacity.	
(4)	Sets the capacity of the recording areas.	 Recording area
(5)	Displays the capacity of the archive area	 Archive area

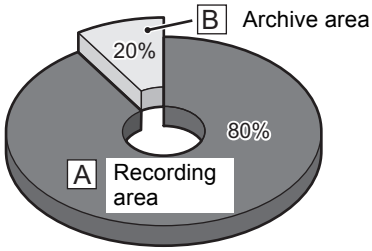
CAUTION

- When the recording area allocation is changed, the hard disk is initialized and all previous recordings are deleted. It is important, therefore, to store recorded video on a PC or some other storage media before modifying recording areas.

NOTE

- The capacity of each hard disk can be checked using the <HDD SET> screen. (→P.122, 124)

■ Default hard disk settings



Hard disk recording areas

Changing recording areas

■ Recording area allocations

The maximum allocation for the recording area is 99%.
The allocation for the archive area cannot be set manually.
When the recording area is modified, the archive area is automatically reconfigured (minimum of 1%).

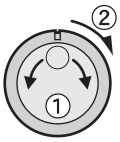
Example: Setting the recording area to 50%

1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

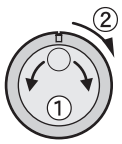
2 Turn the jog dial to select “2.RECORD SET” and then turn the shuttle dial clockwise.

The <RECORD SET> screen is displayed.



3 Turn the jog dial to select “2.RECORDING AREA SET” and then turn the shuttle dial clockwise.

The <RECORDING AREA SET> screen is displayed.

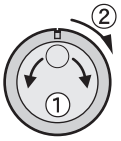



```
<RECORDING AREA SET>
TOTAL CAPACITY          :  1200GB
  INTERNAL HDD          :   500GB
  EXTERNAL HDD          :   700GB
RECORDING AREA          :    80 %
  AREA FULL RESET   ->
ARCHIVE AREA            :    20 %
  AREA FULL RESET   ->

CAUTION: WHEN THE AREA SETTING IS CHANGED,
         THE WHOLE AREA WILL BE INITIALIZED !
```

4 Turn the jog dial to select “RECORDING AREA” and then turn the shuttle dial clockwise.

“80%” flashes.

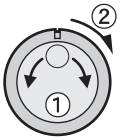



```
<RECORDING AREA SET>
TOTAL CAPACITY          :  1200GB
  INTERNAL HDD          :   500GB
  EXTERNAL HDD          :   700GB
RECORDING AREA          :    80 %
  AREA FULL RESET   ->
ARCHIVE AREA            :    20 %
  AREA FULL RESET   ->

CAUTION: WHEN THE AREA SETTING IS CHANGED,
         THE WHOLE AREA WILL BE INITIALIZED !
```

5 Turn the jog dial to set the “RECORDING AREA” to “50” and then turn the shuttle dial clockwise.

The archive area is automatically set to 50%.
The <WARNING> screen is displayed. A message is displayed indicating that the hard disk is to be initialized.




```
<WARNING>


THIS CHANGE WILL INITIALIZE THE DISK.
ALL RECORDING WILL BE ERASED.
ARE YOU SURE ?
        NO


CHANGE:JOG   SET:SHUTTLE
```

6 Turn the jog dial to select “YES”.

```
<WARNING>


THIS CHANGE WILL INITIALIZE THE DISK.
ALL RECORDING WILL BE ERASED.
ARE YOU SURE ?

       YES

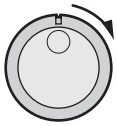

CHANGE:JOG   SET:SHUTTLE
```

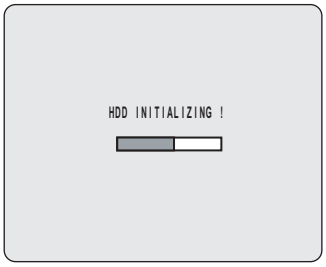
CAUTION

- If the shuttle dial is turned clockwise with “NO” selected, the <RECORDING AREA SET> screen is displayed. In other words, the new settings are not applied.

7 Turn the shuttle dial clockwise.

After the hard disk is initialized, the <RECORD SET> screen appears and the new recording capacity setting is applied.





8 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

EXIT/OSD

Setting overwrite permission

When “OVERWRITE” is set to “OFF” for recording conditions and the recording areas become full, recording is automatically stopped. In this case, overwrite permission can be used to overwrite previous recordings.

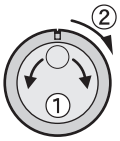
1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

MENU

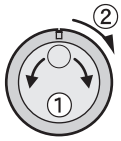
2 Turn the jog dial to select “2.RECORD SET” and then turn the shuttle dial clockwise.

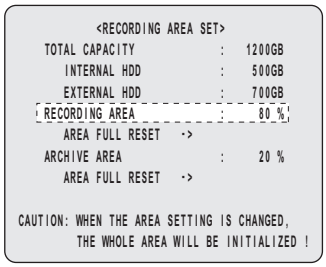
The <RECORD SET> screen is displayed.



3 Turn the jog dial to select “2.RECORDING AREA SET” and then turn the shuttle dial clockwise.

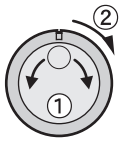
The <RECORDING AREA SET> screen is displayed.




<RECORDING AREA SET>
TOTAL CAPACITY : 1200GB
INTERNAL HDD : 500GB
EXTERNAL HDD : 700GB
RECORDING AREA : 80 %
AREA FULL RESET ->
ARCHIVE AREA : 20 %
AREA FULL RESET ->
CAUTION: WHEN THE AREA SETTING IS CHANGED,
THE WHOLE AREA WILL BE INITIALIZED !

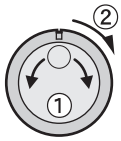
4 Turn the jog dial to select “AREA FULL RESET” under “RECORDING AREA” and then turn the shuttle dial clockwise.

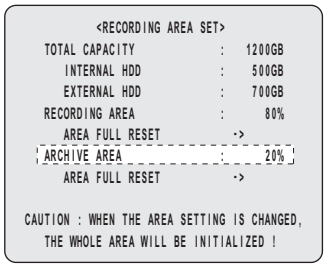
The <WARNING> screen is displayed.
To perform “AREA FULL RESET” for the archive area, select “AREA FULL RESET” under “ARCHIVE AREA”.



5 Turn the jog dial to select “YES” and then turn the shuttle dial clockwise.

Recordings can now be made to the recording area.




<RECORDING AREA SET>
TOTAL CAPACITY : 1200GB
INTERNAL HDD : 500GB
EXTERNAL HDD : 700GB
RECORDING AREA : 80%
AREA FULL RESET ->
ARCHIVE AREA : 20%
AREA FULL RESET ->
CAUTION : WHEN THE AREA SETTING IS CHANGED,
THE WHOLE AREA WILL BE INITIALIZED !

6 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

EXIT/OSD

CAUTION

- When “AREA FULL RESET” is performed for “RECORDING AREA”, the recordings in the recording area are overwritten.
- When “AREA FULL RESET” is performed for “ARCHIVE AREA”, the recordings in the archive area are deleted.

Setting recording conditions

Use the following procedure to set whether to overwrite the old video with the new one or stop recording when the hard disk recording area becomes full. In the latter case, the remaining capacity is shown as a percentage on the operation display. A setting can also be made so that the FULL indicator flashes when the remaining capacity falls to a specific percentage.
Also set to copy images to the archive area manually (→P.53) or automatically copy only alarm recordings.

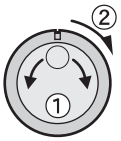
Example: The recording areas and archive area are set so as not to perform overwriting.

1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

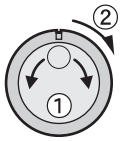
2 Turn the jog dial to select “2.RECORD SET” and then turn the shuttle dial clockwise.

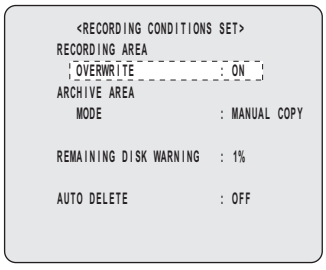
The <RECORD SET> screen is displayed.



3 Turn the jog dial to select “3.RECORDING CONDITIONS SET” and then turn the shuttle dial clockwise.

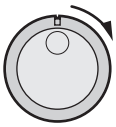
The <RECORDING CONDITIONS SET> screen is displayed.

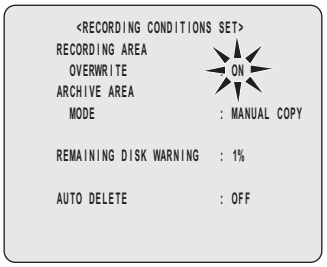




4 Turn the shuttle dial clockwise.

“ON” flashes for “OVERWRITE” under “RECORDING AREA”.





5 Turn the jog dial to select “ON” or “OFF” and then turn the shuttle dial clockwise.

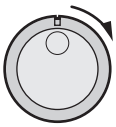
The cursor moves to “MODE” in “ARCHIVE AREA”.

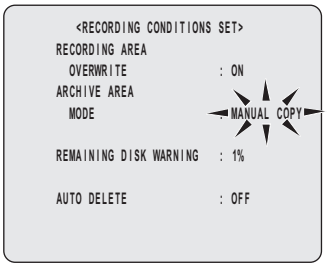
[Settings] (◆ indicates default setting)

Setting	Description
OFF	Recording is stopped when the normal recording area becomes full.
◆ON	Overwriting automatically starts from the beginning of the recording area when it becomes full.

6 Turn the shuttle dial clockwise.

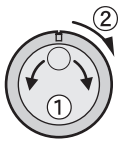
“MANUAL COPY” flashes.

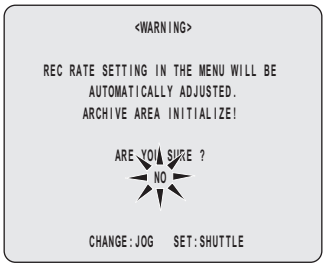




7 Turn the jog dial to select the mode value and then turn the shuttle dial clockwise.

When “AUTO ALARM COPY” is selected, the <WARNING> screen is displayed.





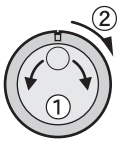
[Settings] (◆ indicates default setting)

Setting	Description
◆MANUAL COPY	Manually copy recording images (→P.53).
AUTO ALARM COPY	Automatically copy alarm recordings to the archive area.

When “AUTO ALARM COPY” is changed to “MANUAL COPY” the following <WARNING> screen is displayed.

If “MANUAL COPY” is unchanged, the cursor moves to “REMAINING DISK WARNING”. Proceed to step 9.

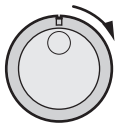
8 To initialize, select “YES” with the jog dial and turn the shuttle dial clockwise.

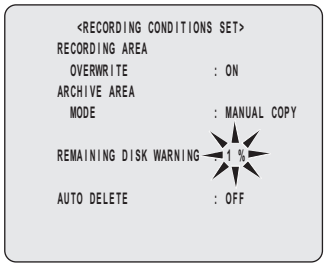


To not initialize, select “NO” and turn the shuttle dial clockwise.

9 Turn the shuttle dial clockwise.

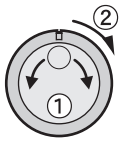
“1%” flashes.

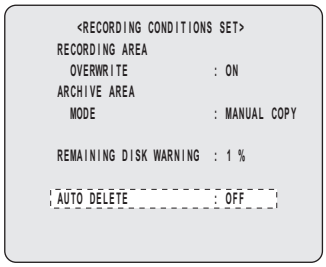




10 Turn the jog dial to select the “REMAINING DISK WARNING” setting and then turn the shuttle dial clockwise.

The remaining capacity can be set anywhere between 1% (default setting) and 10%.



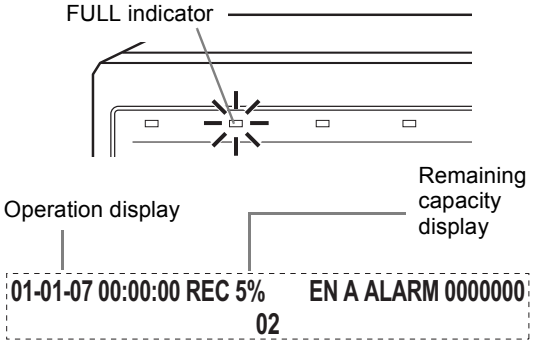


11 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

EXIT/OSD

The FULL indicator flashes when the remaining capacity for the recording areas reaches the specified percentage value. When the FULL indicator flashes or the recording areas become full, use overwrite permission. (→P.84)



NOTE

- The archive area cannot be automatically overwritten. Set overwrite permission (→P.84) when the recording area is full.

Setting auto deleting

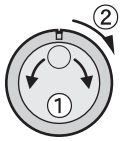
Use the following procedure to set the storage period for recorded data.
When the set period has expired, the corresponding data cannot be played back.

1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

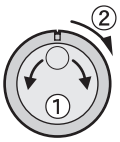
2 Turn the jog dial to select “2.RECORD SET” and then turn the shuttle dial clockwise.

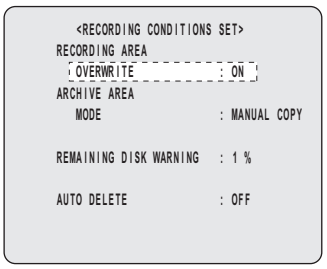
The <RECORD SET> screen is displayed.



3 Turn the jog dial to select “3.RECORDING CONDITIONS SET” and then turn the shuttle dial clockwise.

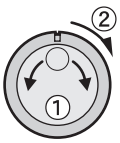
The <RECORDING CONDITIONS SET> screen is displayed.

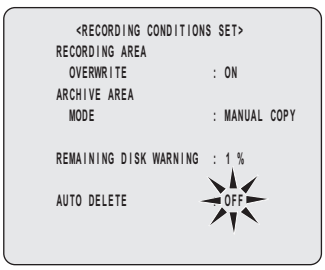




4 Turn the jog dial to select “AUTO DELETE” and then turn the shuttle dial clockwise.

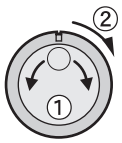
“OFF” flashes.

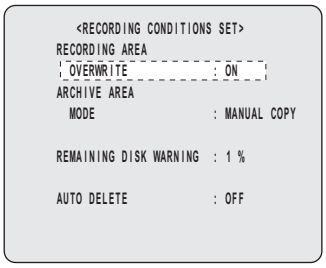




5 Turn the jog dial to select the storage period for the data and then turn the shuttle dial clockwise.

Set the storage period for recorded data to “OFF” or within the range of “1 DAY - 99 DAYS” (full days).





6 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

EXIT/OSD

Setting normal recording

Use the following procedure to make normal recording settings for picture quality, audio recording and recording rate. Alternatively, a program number set using “PROGRAM REC SET” can be specified to set these parameters.

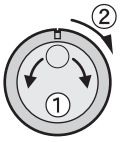
1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

MENU

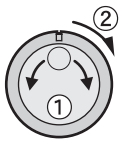
2 Turn the jog dial to select “2.RECORD SET” and then turn the shuttle dial clockwise.

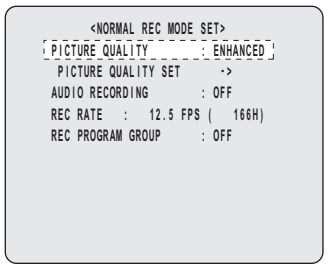
The <RECORD SET> screen is displayed.



3 Turn the jog dial to select “4.NORMAL REC MODE SET” and then turn the shuttle dial clockwise.

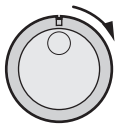
The <NORMAL REC MODE SET> screen is displayed.

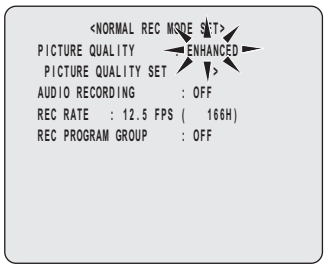




4 Turn the shuttle dial clockwise.

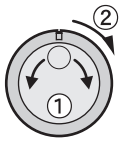
“ENHANCED” flashes.

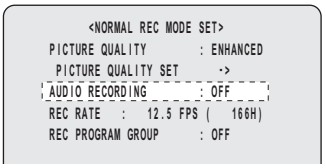




5 Turn the jog dial to select the “PICTURE QUALITY” setting and then turn the shuttle dial clockwise.

The cursor moves to “AUDIO RECORDING”.



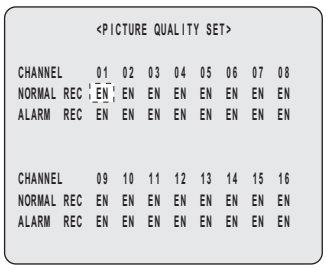


[Settings] (◆ indicates default setting)

Setting	Description
BASIC (BA)	Basic
NORMAL (NO)	Normal
◆ENHANCED (EN)	Enhanced
FINE (FI)	Fine
SUPER FINE (SF)	Super Fine
INDIV.	Picture quality is set for each camera.

■ Setting the picture quality for each camera

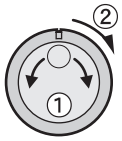
(1) Select “INDIV.” and turn the shuttle dial clockwise.
The cursor moves to “PICTURE QUALITY SET”.
(2) Turn the shuttle dial clockwise.
The <PICTURE QUALITY SET> screen is displayed.
On the DSR-5709P, cameras No. 01-09 are displayed.

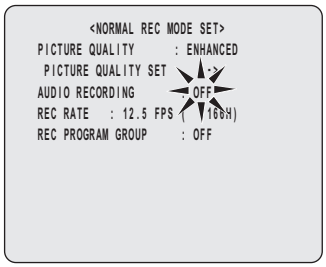


(3) Turn the jog dial to select the camera number and then turn the shuttle dial clockwise.
“EN” flashes.
(4) Turn the jog dial to select the picture quality and then turn the shuttle dial clockwise.
The cursor moves to the next camera number.
(5) Set the picture quality for the other cameras in the same way.
(6) Turn the shuttle dial counter-clockwise.
The display returns to the <NORMAL REC MODE SET> screen.

6 Turn the shuttle dial clockwise.

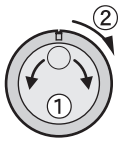
“OFF” flashes.

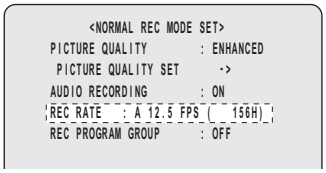




7 Turn the jog dial to select the “AUDIO RECORDING” setting (ON/OFF) and then turn the shuttle dial clockwise.

(Default setting: OFF)





[Settings] (◆ indicates default setting)

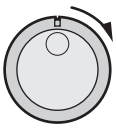
Setting	Description
◆OFF	Audio is not recorded.
ON	Audio is recorded.

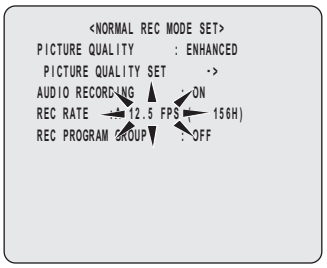
NOTE

- Set when the audio recording rate range is set to above A1 FPS.
- When set to “ON”, the letter “A” (indicating that audio will be recorded) is displayed in front of “REC RATE”. As both video and audio is stored in the recording area, the recording capacity decreases.
- Audio can only be played back at the same rate during recording.
- Playback of audio and video may be out of sync in some areas.

8 Turn the shuttle dial clockwise.

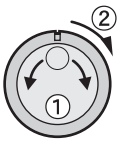
“12.5 FPS” flashes.



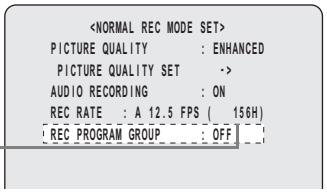


9 Turn the jog dial to select the “REC RATE” setting and then turn the shuttle dial clockwise.

The cursor moves to “REC PROGRAM GROUP”.
(Default setting: 12.5 FPS)
The allowable recording time depends on the “PICTURE QUALITY” setting. (→P.88)



Allowable recording time



[Settings] (◆ indicates default setting)

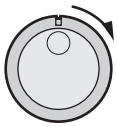
Setting	Description
100, 50, 25, 16.67, ◆12.5, 8.333, 6.25, 5, 4.167, 3.571, 3.125, 2.778, 2.5, 2.273, 1.923, 1.667, 1.471, 1.316, 1.19, 1.087, 1, 0.5, 0.333, 0.25, 0.2, 0.1, 0.05, 0.033	Recording is performed at the selected recording rate (unit: FPS).

CAUTION

- When only one camera is connected, recording is performed at 25 FPS even if 50 or 100 FPS is set.
- When four cameras are connected and 100 FPS is set, recording is performed at the recording rate close to the set rate (100 FPS) divided by the number of cameras. (Example: When 8 cameras are connected and the recording rate setting is 100 FPS, the actual recording rate is 12.5 FPS)
- When mirroring or pre-alarm recording is set to “ON”, recording rates that can be set are limited.

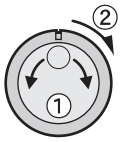
10 Turn the shuttle dial clockwise.

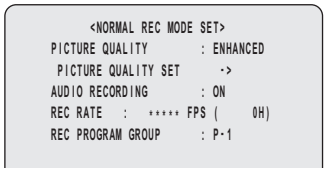
“OFF” flashes.



11 Turn the jog dial to select the “REC PROGRAM GROUP” number and then turn the shuttle dial clockwise.

Example: P-1





[Settings] (◆ indicates default setting)

Setting	Description
◆OFF	Video from all cameras is recorded at the same rate.
P-1	Used when recording with Program No. 1.
P-2	Used when recording with Program No. 2.
P-3	Used when recording with Program No. 3.
P-4	Used when recording with Program No. 4.

12 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

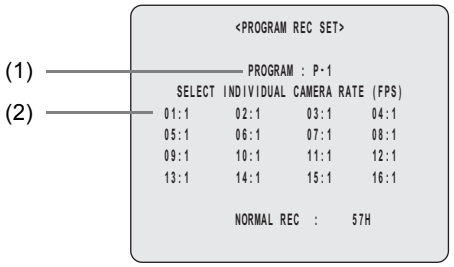
EXIT/OSD

Setting program recording

Use the following procedure to program the camera numbers for recording. Four programs can be set. For example, Program No. 1 could be setup to record from cameras No. 1 through No. 4 only, whereas Program No. 2 could be setup to record from cameras No. 3 through No. 6. In addition, these programs can also be used for timer recording.

CAUTION

- Even if audio recording is set to “ON” using the <NORMAL REC MODE SET> screen, certain settings for program recording may make audio recording impossible. Set more than one of the 16 channels to 1 FPS or greater to record audio.
  On the DSR-5709P, set more than one of the nine channels.



(1) PROGRAM
Selects Program No. 1 through Program No. 4.

(2) SELECT INDIVIDUAL CAMERA RATE
Sets which of the connected cameras to record from. Recording rates can also be set for each camera.

Example: Setting Program No. 1 to record video only from cameras No. 1 through No. 3 at a recording rate of 5

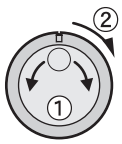
1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

MENU

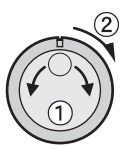
2 Turn the jog dial to select “2.RECORD SET” and then turn the shuttle dial clockwise.

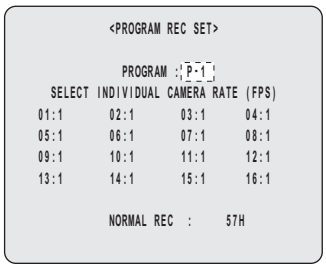
The <RECORD SET> screen is displayed.



3 Turn the jog dial to select “5.PROGRAM REC SET” and then turn the shuttle dial clockwise.

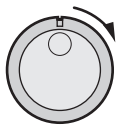
The <PROGRAM REC SET> screen is displayed.

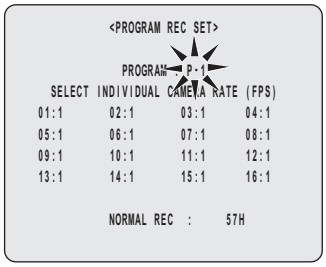




4 Turn the shuttle dial clockwise.

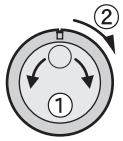
“P-1” flashes for “PROGRAM”.

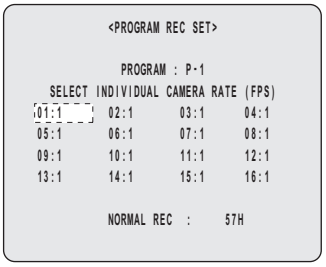




5 Turn the jog dial to select a “PROGRAM” number (for example, P-1) and then turn the shuttle dial clockwise.

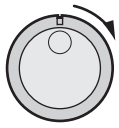
The cursor moves to “01” under “SELECT INDIVIDUAL CAMERA RATE (FPS)”.

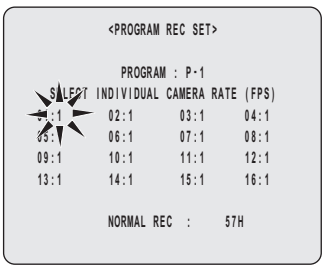




6 Turn the shuttle dial clockwise.

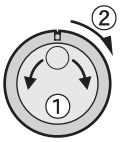
“1” flashes.

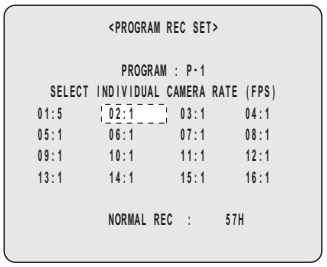




7 Turn the jog dial to select “5” and then turn the shuttle dial clockwise.

Camera No. 1 is now set to record at a rate of 5.
The cursor moves to “02”.





[Settings] (◆ indicates default setting)

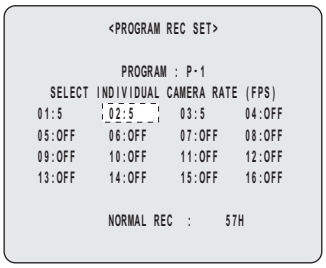
Setting	Description
25, 12.5, 6.25, 3.125, 1.563, ◆1, 0.5, 0.333, 0.25, 0.2, 0.1, 0.05, 0.033	Recording is performed at the selected recording rate (unit: FPS).
OFF	Recording rate is not set.

CAUTION

- For program recording, set recording rate per channel. Recording rates that can be set per channel are automatically calculated.
- When mirroring or pre-alarm recording is set to “ON”, recording rates that can be set are limited.

8 Use the same procedure to set the recording rates for cameras No. 2 and 3, and set the recording rate to “OFF” for cameras No. 4 through 16.

On the DSR-5709P, set the recording rate to “OFF” for cameras No. 4 through 9.



9 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

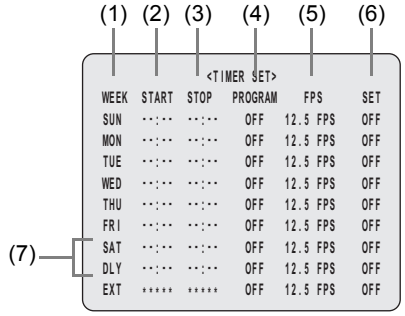
EXIT/OSD

Timer settings

Use the following procedures to set recording start and stop times using the timer function.

Timer setting items

Timer setting items can be used to set times at which to start and stop recording and the recording rate on each specified day of the week.


(1) (2) (3) (4) (5) (6)
(7)
<TIMER SET>
WEEK START STOP PROGRAM FPS SET
SUN --:-- --:-- OFF 12.5 FPS OFF
MON --:-- --:-- OFF 12.5 FPS OFF
TUE --:-- --:-- OFF 12.5 FPS OFF
WED --:-- --:-- OFF 12.5 FPS OFF
THU --:-- --:-- OFF 12.5 FPS OFF
FRI --:-- --:-- OFF 12.5 FPS OFF
SAT --:-- --:-- OFF 12.5 FPS OFF
DLY --:-- --:-- OFF 12.5 FPS OFF
EXT ***** ***** OFF 12.5 FPS OFF

(1) WEEK
This column is used to select the days of the week for timer settings. Select “DLY” to perform timer recording for the same duration at the same rate every day. The 7th (default: “SAT”) and 8th (default: “DLY”) lines are used for timer recording settings of over 24 hours.

(2) START
This column is used to enter the 24-hour time at which to start timer recording.

(3) STOP
This column is used to enter the 24-hour time at which to stop timer recording.
If the start and end times are on different days (i.e., midnight is included), a “T” is displayed to the left of the end time.

(4) PROGRAM
This column is used to enable timer recording using the program function “P-1” through “P-4”. (→P.90)

(5) FPS
This column is used to set the recording rate.
No setting is required here when using program recording.

(6) SET
This column is used to set timer recording to “ON” or “OFF”. When set to “OFF”, timer recording is disabled.

(7) Settings for timer recording of over 24 hours
Use these lines for timer recording spanning more than 24 hours.

NOTE

- The settings made using <NORMAL REC MODE SET> are used to set picture quality and audio recording for timer recording. (→P.88)
- Ensure that start and end times are input using 24-hour notation.
- If the start and end times are on different days (i.e., midnight is included), a “T” is displayed to the left of the end time.

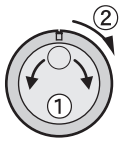
Making timer reservations every day or every week for the same duration with the same recording rate

1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

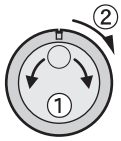
2 Turn the jog dial to select “2.RECORD SET” and then turn the shuttle dial clockwise.

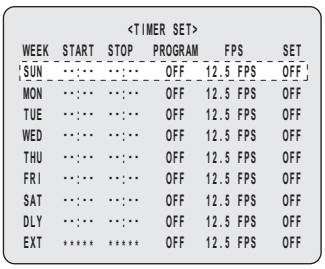
The <RECORD SET> screen is displayed.



3 Turn the jog dial to select “6.TIMER SET” and then turn the shuttle dial clockwise.

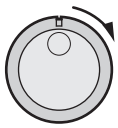
The <TIMER SET> screen is displayed.

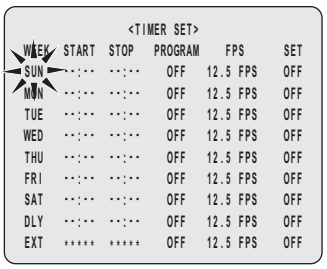



<TIMER SET>
WEEK START STOP PROGRAM FPS SET
SUN --:-- --:-- OFF 12.5 FPS OFF
MON --:-- --:-- OFF 12.5 FPS OFF
TUE --:-- --:-- OFF 12.5 FPS OFF
WED --:-- --:-- OFF 12.5 FPS OFF
THU --:-- --:-- OFF 12.5 FPS OFF
FRI --:-- --:-- OFF 12.5 FPS OFF
SAT --:-- --:-- OFF 12.5 FPS OFF
DLY --:-- --:-- OFF 12.5 FPS OFF
EXT ***** ***** OFF 12.5 FPS OFF

4 Turn the shuttle dial clockwise.

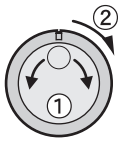
“SUN” flashes.

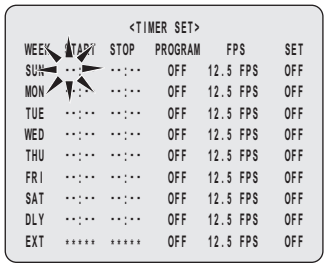



<TIMER SET>
WEEK START STOP PROGRAM FPS SET
SUN --:-- --:-- OFF 12.5 FPS OFF
MON --:-- --:-- OFF 12.5 FPS OFF
TUE --:-- --:-- OFF 12.5 FPS OFF
WED --:-- --:-- OFF 12.5 FPS OFF
THU --:-- --:-- OFF 12.5 FPS OFF
FRI --:-- --:-- OFF 12.5 FPS OFF
SAT --:-- --:-- OFF 12.5 FPS OFF
DLY --:-- --:-- OFF 12.5 FPS OFF
EXT ***** ***** OFF 12.5 FPS OFF

5 Turn the jog dial to set the day, and turn the shuttle dial clockwise.

"--" (indicating the hour) from "START" flashes.




<TIMER SET>
WEEK START STOP PROGRAM FPS SET
SUN --:-- --:-- OFF 12.5 FPS OFF
MON --:-- --:-- OFF 12.5 FPS OFF
TUE --:-- --:-- OFF 12.5 FPS OFF
WED --:-- --:-- OFF 12.5 FPS OFF
THU --:-- --:-- OFF 12.5 FPS OFF
FRI --:-- --:-- OFF 12.5 FPS OFF
SAT --:-- --:-- OFF 12.5 FPS OFF
DLY --:-- --:-- OFF 12.5 FPS OFF
EXT ***** ***** OFF 12.5 FPS OFF

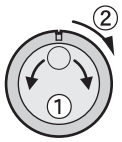
6 Setting the "START" and "STOP" time.

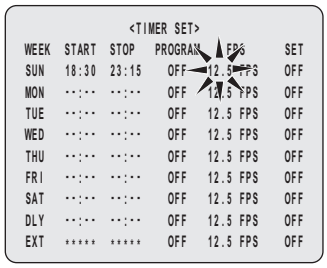
Example: Setting a start time of 6:30 PM and an end time of 11:15 PM

(1) Turn the jog dial and set "18" (indicating the hour), and turn the shuttle dial clockwise.
(Also use 1-9 on the [CAMERA SELECT] button or the [QUAD] button (0) to input.)
(2) Turn the jog dial and set "30" (indicating the minutes), and turn the shuttle dial clockwise.
(3) Set the hours and minutes likewise for "STOP" "OFF" flashes.

7 Turn the jog dial to select the "PROGRAM" value and then turn the shuttle dial clockwise.

"12.5" flashes when "OFF" is selected.
When something other than "OFF" is selected, "FPS" becomes "*****" and "OFF" flashes for "SET".
Proceed to step 9.



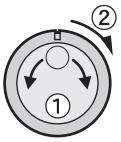

<TIMER SET>
WEEK START STOP PROGRAM FPS SET
SUN 18:30 23:15 OFF 12.5 FPS OFF
MON --:-- --:-- OFF 12.5 FPS OFF
TUE --:-- --:-- OFF 12.5 FPS OFF
WED --:-- --:-- OFF 12.5 FPS OFF
THU --:-- --:-- OFF 12.5 FPS OFF
FRI --:-- --:-- OFF 12.5 FPS OFF
SAT --:-- --:-- OFF 12.5 FPS OFF
DLY --:-- --:-- OFF 12.5 FPS OFF
EXT ***** ***** OFF 12.5 FPS OFF

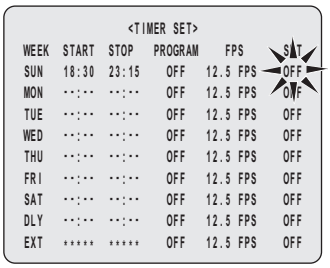
[Settings] (◆ indicates default setting)

Setting	Description
◆OFF	Video from all cameras is recorded at the same rate.
P-1	Used when recording with Program No. 1.
P-2	Used when recording with Program No. 2.
P-3	Used when recording with Program No. 3.
P-4	Used when recording with Program No. 4.

8 Turn the jog dial to set the recording rate and turn the shuttle dial clockwise.

"OFF" flashes for "SET".




<TIMER SET>
WEEK START STOP PROGRAM FPS SET
SUN 18:30 23:15 OFF 12.5 FPS OFF
MON --:-- --:-- OFF 12.5 FPS OFF
TUE --:-- --:-- OFF 12.5 FPS OFF
WED --:-- --:-- OFF 12.5 FPS OFF
THU --:-- --:-- OFF 12.5 FPS OFF
FRI --:-- --:-- OFF 12.5 FPS OFF
SAT --:-- --:-- OFF 12.5 FPS OFF
DLY --:-- --:-- OFF 12.5 FPS OFF
EXT ***** ***** OFF 12.5 FPS OFF

[Settings] (◆ indicates default setting)

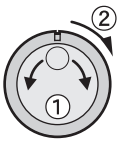
Setting	Description
100, 50, 25, 16.67, ◆12.5, 8.333, 6.25, 5, 4.167, 3.571, 3.125, 2.778, 2.5, 2.273, 1.923, 1.667, 1.471, 1.316, 1.19, 1.087, 1, 0.5, 0.333, 0.25, 0.2, 0.1, 0.05, 0.033	Recording is performed at the selected recording rate (unit: FPS).

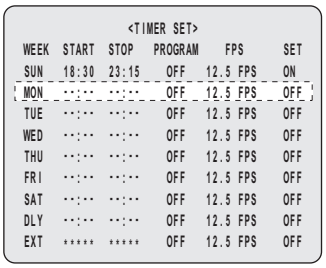
CAUTION

- When only one camera is connected, recording is performed at 25 FPS even if 50 or 100 FPS are set.
- When two or more cameras are connected and 50 or 100 FPS is set, the actual recording rate is roughly the recording rate divided by the number of cameras. (Example: When 8 cameras are connected and the recording rate setting is 100 FPS, the actual recording rate is 12.5 FPS)
- When mirroring or pre-alarm recording is set to "ON", recording rates that can be set are limited.

9 Turn the jog dial to set the timer "ON"/ "OFF", and turn the shuttle dial clockwise.

The cursor appears in the bottom line.




<TIMER SET>
WEEK START STOP PROGRAM FPS SET
SUN 18:30 23:15 OFF 12.5 FPS ON
MON --:-- --:-- OFF 12.5 FPS OFF
TUE --:-- --:-- OFF 12.5 FPS OFF
WED --:-- --:-- OFF 12.5 FPS OFF
THU --:-- --:-- OFF 12.5 FPS OFF
FRI --:-- --:-- OFF 12.5 FPS OFF
SAT --:-- --:-- OFF 12.5 FPS OFF
DLY --:-- --:-- OFF 12.5 FPS OFF
EXT ***** ***** OFF 12.5 FPS OFF

10 Use the same procedure to set other items.

■ To change a setting item

Turn the shuttle dial to select the item to be changed and then turn the jog dial to change the setting.

<TIMER SET>

WEEK	START	STOP	PROGRAM	FPS	SET
SUN	18:30	23:15	OFF	12.5 FPS	ON
MON	09:00	21:00	OFF	12.5 FPS	ON
TUE	--:--	--:--	OFF	12.5 FPS	OFF
WED	--:--	--:--	OFF	12.5 FPS	OFF
THU	--:--	--:--	OFF	12.5 FPS	OFF
FRI	--:--	--:--	OFF	12.5 FPS	OFF
SAT	--:--	--:--	OFF	12.5 FPS	OFF
DLY	--:--	--:--	OFF	12.5 FPS	OFF
EXT	*****	*****	OFF	12.5 FPS	OFF

11 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

EXIT/OSD

CAUTION

- If timer settings overlap, recording is performed in the following priority order.
  Individual reservations ⟶ "DLY" ⟶ "EXT"
  (High) ⟵ Priority ⟶ (Low)
- If a reservation for a particular day or a daily reservation overlaps with each other, priority is given to that with the earliest start time. If both have the same start time, priority is given to that with the highest setting position in the menu.

NOTE

- Set specific dates as holidays to enable the same operation as on Sunday. (→P.71)

To cancel all set timer reservations

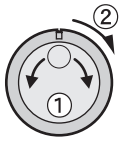
1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

MENU

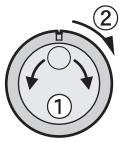
2 Turn the jog dial to select "2.RECORD SET" and then turn the shuttle dial clockwise.

The <RECORD SET> screen is displayed.



3 Turn the jog dial to select "6.TIMER SET" and then turn the shuttle dial clockwise.

The <TIMER SET> screen is displayed.

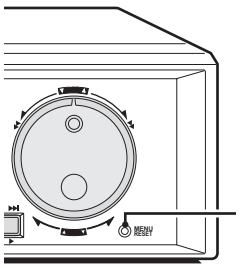


<TIMER SET>

WEEK	START	STOP	PROGRAM	FPS	SET
SUN	09:00	21:00	OFF	12.5 FPS	ON
MON	09:00	21:00	OFF	12.5 FPS	ON
TUE	09:00	21:00	OFF	12.5 FPS	ON
WED	09:00	21:00	OFF	12.5 FPS	ON
THU	09:00	21:00	OFF	12.5 FPS	ON
FRI	--:--	--:--	OFF	12.5 FPS	OFF
SAT	--:--	--:--	OFF	12.5 FPS	OFF
DLY	--:--	--:--	OFF	12.5 FPS	OFF
EXT	*****	*****	OFF	12.5 FPS	OFF

4 Press the [MENU RESET] button.

All setting items are cleared.



[MENU RESET] button

Timer recordings spanning more than 24 hours

Use the following procedures to set timer recordings spanning more than 24 hours. Perform in line 7 (default: “SAT”) and line 8 (default: “DLY”) of the <TIMER SET> screen.

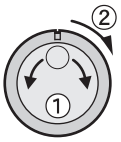
Example: A Program No. 1 timer recording from 10:30 AM on Monday to 8:30 PM on Wednesday with a recording rate of 5 FPS

1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

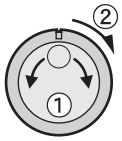
2 Turn the jog dial to select “2.RECORD SET” and then turn the shuttle dial clockwise.

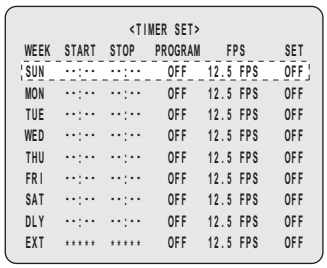
The <RECORD SET> screen is displayed.



3 Turn the jog dial to select “6.TIMER SET” and then turn the shuttle dial clockwise.

The <TIMER SET> screen is displayed.



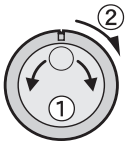


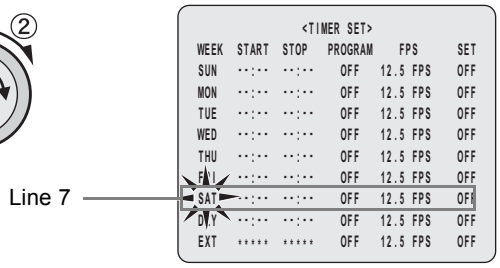
<TIMER SET>

WEEK	START	STOP	PROGRAM	FPS	SET
SUN	--:--	--:--	OFF	12.5 FPS	OFF
MON	--:--	--:--	OFF	12.5 FPS	OFF
TUE	--:--	--:--	OFF	12.5 FPS	OFF
WED	--:--	--:--	OFF	12.5 FPS	OFF
THU	--:--	--:--	OFF	12.5 FPS	OFF
FRI	--:--	--:--	OFF	12.5 FPS	OFF
SAT	--:--	--:--	OFF	12.5 FPS	OFF
DLY	--:--	--:--	OFF	12.5 FPS	OFF
EXT	*****	*****	OFF	12.5 FPS	OFF

4 Turn the jog dial to select line 7 (SAT) and then turn the shuttle dial clockwise.

“SAT” in the “WEEK” column flashes.



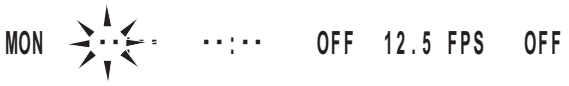


<TIMER SET>

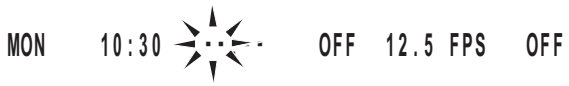
WEEK	START	STOP	PROGRAM	FPS	SET
SUN	--:--	--:--	OFF	12.5 FPS	OFF
MON	--:--	--:--	OFF	12.5 FPS	OFF
TUE	--:--	--:--	OFF	12.5 FPS	OFF
WED	--:--	--:--	OFF	12.5 FPS	OFF
THU	--:--	--:--	OFF	12.5 FPS	OFF
FRI	--:--	--:--	OFF	12.5 FPS	OFF
SAT	--:--	--:--	OFF	12.5 FPS	OFF
DLY	--:--	--:--	OFF	12.5 FPS	OFF
EXT	*****	*****	OFF	12.5 FPS	OFF

5 Make settings in the “WEEK” and “START” columns.

(1) Turn the jog dial to select “MON” and then turn the shuttle dial clockwise.
“---” (hour) flashes.

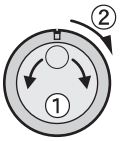


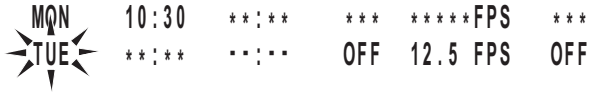
(2) Turn the jog dial to select “10” (hour) and then turn the shuttle dial clockwise.
(3) Turn the jog dial to select “30” (minutes) and then turn the shuttle dial clockwise.



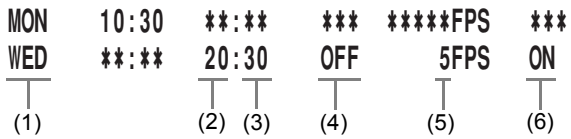
6 Turn the jog dial to set the end time to “**” and then turn the shuttle dial clockwise.

The “DLY” item on line 8 automatically changes to “TUE” (i.e., the day after that set on line 7) and flashes. Items that do not need to be set are indicated with asterisks (*).





7 Set “WEEK” and “STOP” to stop recording and make the settings for “FPS” and “SET”.



(1) Turn the jog dial to select “WED” and then turn the shuttle dial clockwise.
(2) Turn the jog dial to select “20” (hour) and then turn the shuttle dial clockwise.
(3) Turn the jog dial to select “30” (minutes) and then turn the shuttle dial clockwise.
(4) Turn the jog dial and set “OFF” (indicating program recording) to “P-1” and turn the shuttle dial clockwise.
(5) Turn the jog dial to set “FPS” (recording rate) to “5” and then turn the shuttle dial clockwise.
(6) Turn the jog dial to select “ON” and then turn the shuttle dial clockwise.

8 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

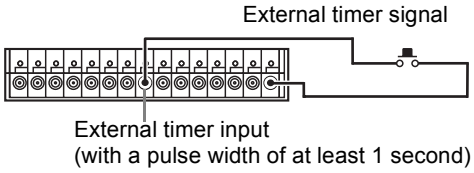
EXIT/OSD

Timer recording using an external timer

Use the following procedure to control the start and end of recording in response to signals received via the EXT TIMER IN terminal on the rear of the digital video recorder.

Example: Recording at a rate of 5 FPS using the EXT TIMER IN terminal

1 Connect the signal line from the external timer to the EXT TIMER IN terminal within the rear panel control terminal block.



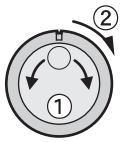
2 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

MENU

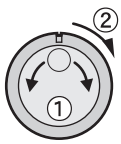
3 Turn the jog dial to select “2.RECORD SET” and then turn the shuttle dial clockwise.

The <RECORD SET> screen is displayed.



4 Turn the jog dial to select “6.TIMER SET” and then turn the shuttle dial clockwise.

The <TIMER SET> screen is displayed.

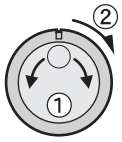


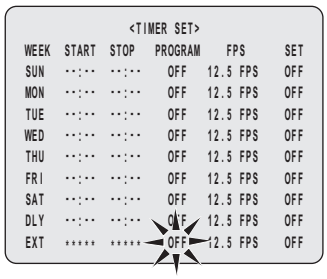
<TIMER SET>

WEEK	START	STOP	PROGRAM	FPS	SET
SUN	--:--	--:--	OFF	12.5 FPS	OFF
MON	--:--	--:--	OFF	12.5 FPS	OFF
TUE	--:--	--:--	OFF	12.5 FPS	OFF
WED	--:--	--:--	OFF	12.5 FPS	OFF
THU	--:--	--:--	OFF	12.5 FPS	OFF
FRI	--:--	--:--	OFF	12.5 FPS	OFF
SAT	--:--	--:--	OFF	12.5 FPS	OFF
DLY	--:--	--:--	OFF	12.5 FPS	OFF
EXT	*****	*****	OFF	12.5 FPS	OFF

5 Turn the jog dial to select line 9 (EXT) and then turn the shuttle dial clockwise.

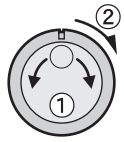
"OFF" flashes.




<TIMER SET>
WEEK START STOP PROGRAM FPS SET
SUN --:-- --:-- OFF 12.5 FPS OFF
MON --:-- --:-- OFF 12.5 FPS OFF
TUE --:-- --:-- OFF 12.5 FPS OFF
WED --:-- --:-- OFF 12.5 FPS OFF
THU --:-- --:-- OFF 12.5 FPS OFF
FRI --:-- --:-- OFF 12.5 FPS OFF
SAT --:-- --:-- OFF 12.5 FPS OFF
DLY --:-- --:-- OFF 12.5 FPS OFF
EXT ***** ***** OFF 12.5 FPS OFF

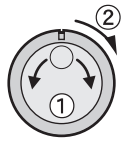
6 Turn the jog dial to select "OFF" and then turn the shuttle dial clockwise.

"12.5" flashes.



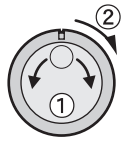
7 Turn the jog dial to select "5" and then turn the shuttle dial clockwise.

"OFF" flashes.



8 Turn the jog dial to select "ON" and then turn the shuttle dial clockwise.

The cursor moves to line 1.



9 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

Setting timer recording

Use the following procedure to activate or cancel timer recording.

1 Press the [TIMER] button.

- The TIMER indicator lights up and the digital video recorder enters timer recording standby mode.
- Press the [TIMER] button once again to cancel timer recording.
- "REC" is displayed in the operation display when a signal is received (with a pulse width of at least 1 second) via the EXT TIMER IN terminal, and monitoring video is recorded in the recording area.

CAUTION

- External timer recording and normal timer recording can be combined.
- Connect the signal line from the external timer to the EXT TIMER IN terminal. External timer recording is not possible until a timer is connected.

Setting alarm recording

To set alarm recording

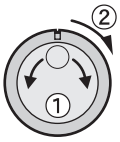
Use the following procedure to select the picture quality, audio recording and recording rate for alarm recording.

1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

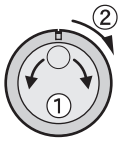
2 Turn the jog dial to select “2.RECORD SET” and then turn the shuttle dial clockwise.

The <RECORD SET> screen is displayed.



3 Turn the jog dial to select “7.ALARM REC MODE SET” and then turn the shuttle dial clockwise.

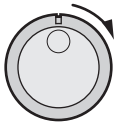
The <ALARM REC MODE SET> screen is displayed.




```
〈ALARM REC MODE SET〉
ALARM RECORDING          : OFF
PICTURE QUALITY          : ENHANCED
  PICTURE QUALITY SET      ->
AUDIO RECORDING          : OFF
ALARM INTERLEAVE         : ONLY
  REC RATE: 12.5FPS,  DURATION: 20SEC
PRE-ALARM RECORDING      : ###
  REC RATE: ##### FPS,   DURATION: #####
ALARM TRIGGER            : ALARM
  MOTION SENSOR              ->
```

4 Turn the shuttle dial clockwise.

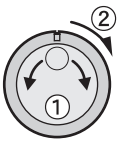
“OFF” flashes for “ALARM RECORDING”.



```
〈ALARM REC MODE SET〉
ALARM RECORDING          : OFF
PICTURE QUALITY          : ENHANCED
  PICTURE QUALITY SET      ->
AUDIO RECORDING          : OFF
ALARM INTERLEAVE         : ONLY
  REC RATE: 12.5FPS,  DURATION: 20SEC
PRE-ALARM RECORDING      : ###
  REC RATE: ##### FPS,   DURATION: #####
ALARM TRIGGER            : ALARM
  MOTION SENSOR              ->
```

5 Turn the jog dial to select the “ALARM RECORDING” setting and then turn the shuttle dial clockwise.

The cursor moves to “PICTURE QUALITY”.




```
〈ALARM REC MODE SET〉
ALARM RECORDING          : ENABLED
PICTURE QUALITY          : ENHANCED
  PICTURE QUALITY SET      ->
AUDIO RECORDING          : OFF
ALARM INTERLEAVE         : ONLY
  REC RATE: 15FPS,   DURATION: 20SEC
PRE-ALARM RECORDING      : OFF
  REC RATE: ##### FPS,   DURATION: #####
ALARM TRIGGER            : ALARM
  MOTION SENSOR              ->
```

[Settings] (◆ indicates default setting)

Setting	Description
◆OFF	Alarm recording is disabled.
ENABLED	Alarm recording is enabled regardless of whether or not timer recording is enabled.
AL-REC ON TIMER	Alarm recording is enabled only during timer recording.
AL-REC OFF TIMER	Alarm recording is enabled only when timer recording is disabled.
OLY AL-RC ON TMR	Alarm recording is enabled only during the time set in the timer setting. Normal recording is not enabled.

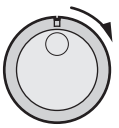
* “OLY AL-RC ON TMR” can be enabled simply by making a timer setting. Accordingly, there is no need to press the [TIMER] button.

NOTE

- When “ALARM RECORDING” is set to “OFF” the cursor cannot move to another item.

6 Turn the shuttle dial clockwise.

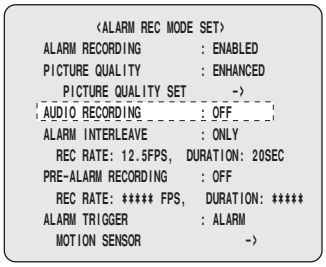
“ENHANCED” flashes.



```
〈ALARM REC MODE SET〉
ALARM RECORDING          : ENABLED
PICTURE QUALITY          : ENHANCED
  PICTURE QUALITY SET      ->
AUDIO RECORDING          : OFF
ALARM INTERLEAVE         : ONLY
  REC RATE: 12.5FPS,  DURATION: 20SEC
PRE-ALARM RECORDING      : OFF
  REC RATE: ##### FPS,   DURATION: #####
ALARM TRIGGER            : ALARM
  MOTION SENSOR              ->
```

7 Turn the jog dial to select the “PICTURE QUALITY” setting and then turn the shuttle dial clockwise.

The cursor moves to “AUDIO RECORDING”.

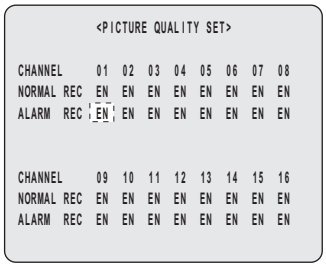

<ALARM REC MODE SET>
ALARM RECORDING : ENABLED
PICTURE QUALITY : ENHANCED
PICTURE QUALITY SET ->
AUDIO RECORDING : OFF
ALARM INTERLEAVE : ONLY
REC RATE: 12.5FPS, DURATION: 20SEC
PRE-ALARM RECORDING : OFF
REC RATE: ##### FPS, DURATION: #####
ALARM TRIGGER : ALARM
MOTION SENSOR ->

[Settings] (◆ indicates default setting)

Setting	Description
BASIC (BA)	Basic
NORMAL (NO)	Normal
◆ENHANCED (EN)	Enhanced
FINE (FI)	Fine
SUPER FINE (SF)	Super Fine
INDIV.	Picture quality is set for each camera.

■ Setting the picture quality for each camera

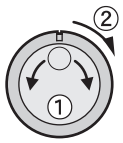
(1) Select “INDIV.” and turn the shuttle dial clockwise.
The cursor moves to “PICTURE QUALITY”.
(2) Turn the shuttle dial clockwise.
The <PICTURE QUALITY SET> screen is displayed.
On the DSR-5709P, cameras No. 01-09 are displayed.

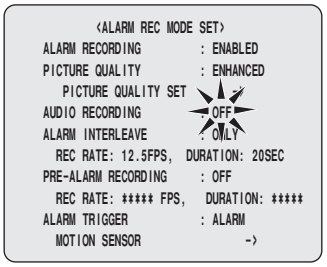

<PICTURE QUALITY SET>
CHANNEL 01 02 03 04 05 06 07 08
NORMAL REC EN EN EN EN EN EN EN EN
ALARM REC EN EN EN EN EN EN EN EN
CHANNEL 09 10 11 12 13 14 15 16
NORMAL REC EN EN EN EN EN EN EN EN
ALARM REC EN EN EN EN EN EN EN EN

(3) Turn the jog dial to select the camera number and then turn the shuttle dial clockwise.
“EN” flashes.
(4) Turn the jog dial to select the picture quality and then turn the shuttle dial clockwise.
The cursor moves to the next camera number.
(5) Set the picture quality for the other cameras in the same way.
(6) Turn the shuttle dial counter-clockwise.
The display returns to the <ALARM REC MODE SET> screen.

8 Turn the jog dial to select “AUDIO RECORDING” and turn the shuttle dial clockwise.

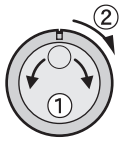
“OFF” flashes.

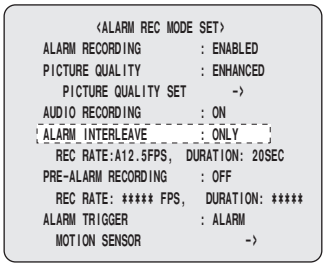



<ALARM REC MODE SET>
ALARM RECORDING : ENABLED
PICTURE QUALITY : ENHANCED
PICTURE QUALITY SET ->
AUDIO RECORDING : OFF
ALARM INTERLEAVE : ONLY
REC RATE: 12.5FPS, DURATION: 20SEC
PRE-ALARM RECORDING : OFF
REC RATE: ##### FPS, DURATION: #####
ALARM TRIGGER : ALARM
MOTION SENSOR ->

9 Turn the jog dial to select “ON” or “OFF” and then turn the shuttle dial clockwise.

The cursor moves to “ALARM INTERLEAVE”.




<ALARM REC MODE SET>
ALARM RECORDING : ENABLED
PICTURE QUALITY : ENHANCED
PICTURE QUALITY SET ->
AUDIO RECORDING : ON
ALARM INTERLEAVE : ONLY
REC RATE:A12.5FPS, DURATION: 20SEC
PRE-ALARM RECORDING : OFF
REC RATE: ##### FPS, DURATION: #####
ALARM TRIGGER : ALARM
MOTION SENSOR ->

[Settings] (◆ indicates default setting)

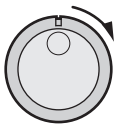
Setting	Description
◆OFF	Audio is not recorded.
ON	Audio is recorded.

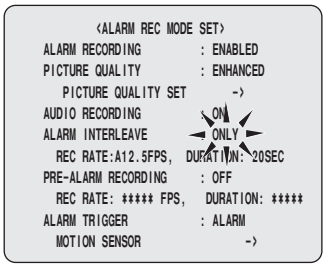
NOTE

- The settings for audio recording are restricted by the settings for “ALARM INTERLEAVE (Step 11)” as follows:
ONLY/SW/ALL:
Audio recording is enabled when “REC RATE (Step 13)” is set to 1 FPS or more.
ALL (P-1 – 4):
Audio recording is enabled when “REC RATE” for any one of the program-registered cameras is set to 1 FPS or more.
ONLY (P-1 – 4):
Audio recording is disabled.
- You see an “A” (audio recording mark) displayed next to “REC RATE” whenever audio recording is enabled.

10 Turn the shuttle dial clockwise.

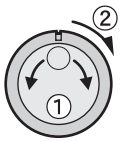
"ONLY" flashes.

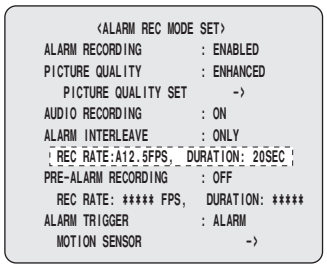




11 Turn the jog dial to select the "ALARM INTERLEAVE" setting and then turn the shuttle dial clockwise.

The cursor moves to "REC RATE/DURATION".

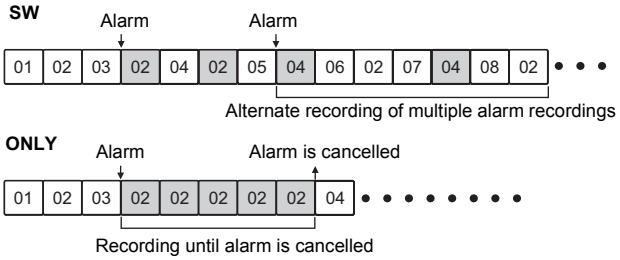



<ALARM REC MODE SET>
ALARM RECORDING : ENABLED
PICTURE QUALITY : ENHANCED
PICTURE QUALITY SET ->
AUDIO RECORDING : ON
ALARM INTERLEAVE : ONLY
REC RATE:A12.5FPS, DURATION: 20SEC
PRE-ALARM RECORDING : OFF
REC RATE: ***** FPS, DURATION: *****
ALARM TRIGGER : ALARM
MOTION SENSOR ->
REC RATE:A12.5FPS, DURATION: 20SEC

[Settings] (◆ indicates default setting)

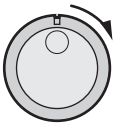
Setting	Description
◆ONLY	Video is recorded only from cameras with an alarm occurring.
SW	Recording is switched between video from a camera for which an alarm has occurred and video from all connected cameras.
ALL	When any one of the cameras receives an alarm, all connected cameras start recording in order.
ONLY (P-1) ONLY (P-2) ONLY (P-3) ONLY (P-4)	<"ONLY" program mode> When a connected camera registered in the program recording setting receives an alarm, video recording starts at a recording rate specified in the program. ● Specify the program you want to apply from "P-1" to "P-4". ● Audio recording is not available.
ALL (P-1) ALL (P-2) ALL (P-3) ALL (P-4)	<"ALL" program mode> When any one of the connected cameras registered in the program recording setting receives an alarm, video recording starts for all the connected cameras at a recording rate which was independently specified for each connected camera in the program. ● Specify a program you want to apply from "P-1 to P-4". ● Audio recording is available only when any one of the cameras has a recording rate of 1 FPS or more.

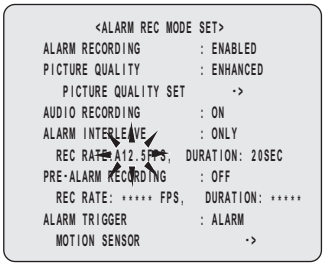
* Example of recording pattern for SW and ONLY


SW
Alarm
Alarm
01 02 03 02 04 02 05 04 06 02 07 04 08 02
Alternate recording of multiple alarm recordings
ONLY
Alarm
Alarm is cancelled
01 02 03 02 02 02 02 02 04
Recording until alarm is cancelled

12 Turn the shuttle dial clockwise.

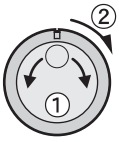
If "ALARM INTERLEAVE (step 11)" is set to other than the program mode, you see "A12.5FPS" flash for "REC RATE", indicating that setting is acceptable.

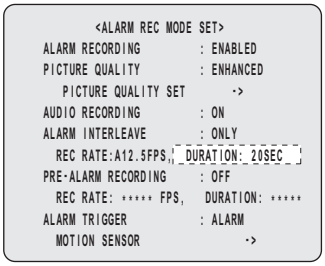




13 Turn the jog dial to select the "REC RATE" setting and then turn the shuttle dial clockwise.

The cursor moves to "DURATION".





[Settings] (◆ indicates default setting)

Setting	Description
50, 25, 16.67, ◆12.5, 8.333, 6.25, 5, 4.167, 3.571, 3.125, 2.778, 2.5, 2.273, 1.923, 1.667, 1.471, 1.316, 1.19, 1.087, 1, 0.5, 0.333, 0.25, 0.2, 0.1, 0.05, 0.033	Recording is performed at the selected recording rate (unit: FPS).

NOTE

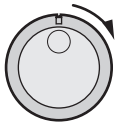
- If "ALARM INTERLEAVE (step 11)" is set to program mode, "****" is displayed and you cannot select the recording rate.

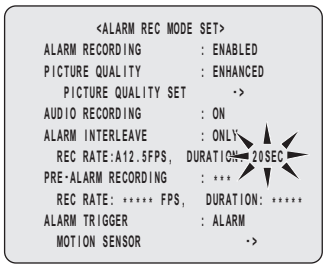
CAUTION

- When only one camera is connected, recording is performed at 25 FPS even if 50 FPS is set.
- Assuming that two or more cameras are connected and “ALARM INTERLEAVE” is set to “ALL”, when 50 FPS is set, the actual recording rate is roughly the recording rate divided by the number of cameras. (Example: When four cameras are connected and the recording rate setting is 50 FPS, the actual recording rate is 12.5 FPS.) It varies depending on the setting of “ALARM INTERLEAVE” and the number of alarms.

14 Turn the shuttle dial clockwise.

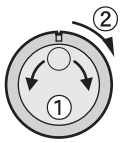
“20SEC” flashes.

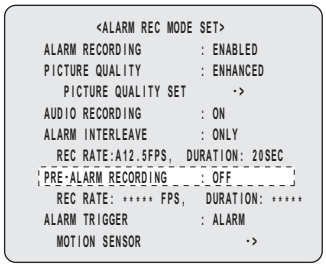




15 Turn the jog dial to select the “DURATION” setting and then turn the shuttle dial clockwise.

The cursor moves to “PRE-ALARM RECORDING”.





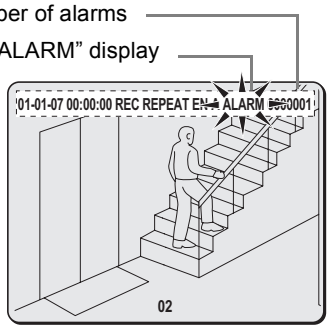
[Settings] (◆ indicates default setting)

Setting	Description
5SEC, 10SEC, ◆20SEC, 40SEC, 1MIN, 2MIN, 3MIN, 4MIN, 5MIN, 10MIN, 15MIN	Records for the set duration for each alarm.
CC	Records while an alarm is activated. Recording continues for five seconds even if entry is less than five seconds.

16 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.
“ALARM” appears in the operation display.
When an alarm occurs, the number of alarms is displayed.

EXIT/OSD



CAUTION

- When an additional alarm is received on another channel while alarm recording is in progress, the number of alarms is incremented, i.e.they are counted as two alarms. However, when an additional alarm is received on the same channel, both alarms are treated as one (e.g. an additional alarm is received on CH1 while the channel is being used for alarm recording.)

To set pre-alarm recording

Use the following procedure to set the recording rate and time.

CAUTION

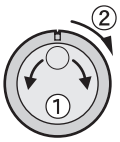
- Settings cannot be made for “PRE-ALARM RECORDING” when “ALARM REC” is set to “OFF”.

1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

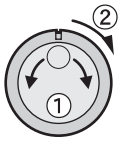
MENU

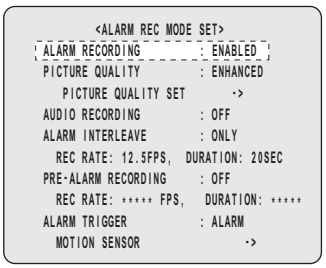
2 Turn the jog dial to select “2.RECORD SET” and then turn the shuttle dial clockwise.



3 Turn the jog dial to select “7.ALARM REC MODE SET” and then turn the shuttle dial clockwise.

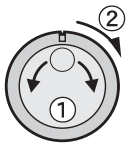
The <ALARM REC MODE SET> screen is displayed.

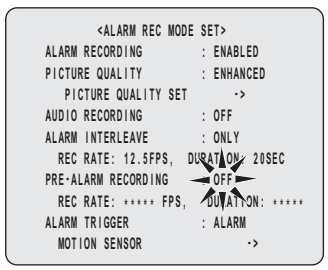



<ALARM REC MODE SET>
ALARM RECORDING : ENABLED
PICTURE QUALITY : ENHANCED
PICTURE QUALITY SET ->
AUDIO RECORDING : OFF
ALARM INTERLEAVE : ONLY
REC RATE: 12.5FPS, DURATION: 20SEC
PRE-ALARM RECORDING : OFF
REC RATE: ***** FPS, DURATION: *****
ALARM TRIGGER : ALARM
MOTION SENSOR ->

4 Turn the jog dial to select “PRE-ALARM RECORDING” and then turn the shuttle dial clockwise.

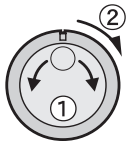
“OFF” flashes.

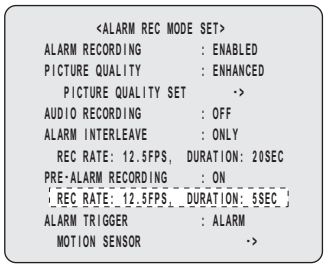



<ALARM REC MODE SET>
ALARM RECORDING : ENABLED
PICTURE QUALITY : ENHANCED
PICTURE QUALITY SET ->
AUDIO RECORDING : OFF
ALARM INTERLEAVE : ONLY
REC RATE: 12.5FPS, DURATION: 20SEC
PRE-ALARM RECORDING : OFF
REC RATE: ***** FPS, DURATION: *****
ALARM TRIGGER : ALARM
MOTION SENSOR ->

5 Turn the jog dial to select “ON” and then turn the shuttle dial clockwise.

The cursor moves to “REC RATE”.



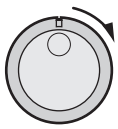

<ALARM REC MODE SET>
ALARM RECORDING : ENABLED
PICTURE QUALITY : ENHANCED
PICTURE QUALITY SET ->
AUDIO RECORDING : OFF
ALARM INTERLEAVE : ONLY
REC RATE: 12.5FPS, DURATION: 20SEC
PRE-ALARM RECORDING : ON
REC RATE: 12.5FPS, DURATION: 5SEC
ALARM TRIGGER : ALARM
MOTION SENSOR ->

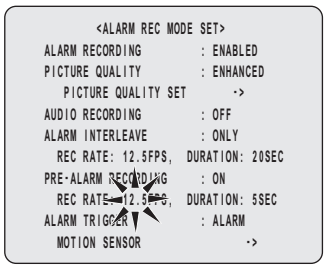
[Settings] (◆ indicates default setting)

Setting	Description
◆OFF	Pre-alarm recording is disabled.
ON	Pre-alarm recording is enabled.

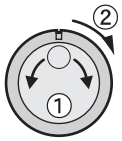
6 Turn the shuttle dial clockwise.

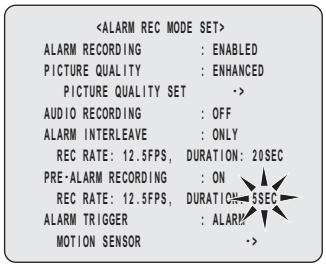
“12.5” flashes.
(Default setting: 12.5FPS)




<ALARM REC MODE SET>
ALARM RECORDING : ENABLED
PICTURE QUALITY : ENHANCED
PICTURE QUALITY SET ->
AUDIO RECORDING : OFF
ALARM INTERLEAVE : ONLY
REC RATE: 12.5FPS, DURATION: 20SEC
PRE-ALARM RECORDING : ON
REC RATE: 12.5FPS, DURATION: 5SEC
ALARM TRIGGER : ALARM
MOTION SENSOR ->

7 Turn the jog dial to select the “REC RATE” setting and then turn the shuttle dial clockwise.





[Settings] (◆ indicates default setting)

Setting	Description
100, 50, 25, 16.67, ◆12.5, 8.333, 6.25, 5, 4.167, 3.571, 3.125, 2.778, 2.5, 2.273, 1.923, 1.667, 1.471, 1.316, 1.19, 1.087, 1	Recording is performed at the selected recording rate (unit: FPS).

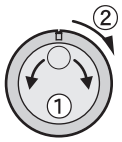
Refer to “Table of pre-alarm recording times” (→P.224) when setting.

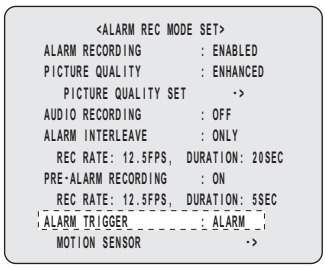
CAUTION

- When mirroring is set to “ON”, configurable recording rates are limited.
- When only one camera is connected, recording is performed at 25 FPS even if 50 or 100 FPS are set.
- When four cameras are connected and 100 FPS is set, recording is performed at the recording rate close to the set rate (100 FPS) divided by the number of cameras. (Example: When 8 cameras are connected and the recording rate setting is 100 FPS, the actual recording rate is 12.5 FPS)

8 Turn the jog dial to select the “DURATION” setting and then turn the shuttle dial clockwise.

The cursor moves to “ALARM TRIGGER”.



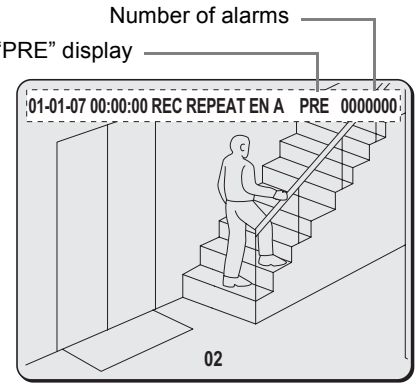


[Settings] (◆ indicates default setting)

Setting	Description
◆5SEC, 10SEC, 20SEC, 40SEC, 1MIN, 2MIN, 3MIN, 4MIN, 5MIN, 10MIN, 15MIN	Records for the set duration.

9 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.
“PRE” appears in the operation display. When an alarm occurs, “ALARM” is displayed.



NOTE

- When “PRE-ALARM RECORDING” is set to “ON”, press the [REC/STOP] button to record past video. The alarm number next to “PRE” is not updated.

CAUTION

- Pre-alarm recording is performed during the period set by “DURATION” before an alarm occurs. To play back pre-alarm recordings, perform alarm search (using the [SEARCH] button). (→P.39) Recordings are played back at the point the alarm occurs. Use the shuttle dial to begin reverse playback.

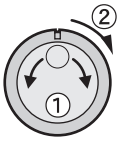
Setting alarm triggers

Use this setting to indicate how alarms are to be detected.

1 Press the [MENU] button.

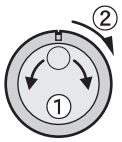
The MENU indicator lights up and the <MAIN MENU> is displayed.

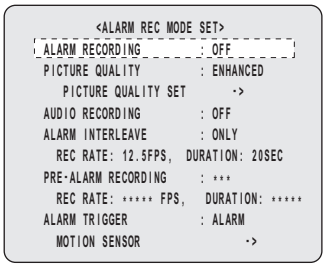
2 Turn the jog dial to select "2.RECORD SET" and then turn the shuttle dial clockwise.



3 Turn the jog dial to select "7.ALARM REC MODE SET" and then turn the shuttle dial clockwise.

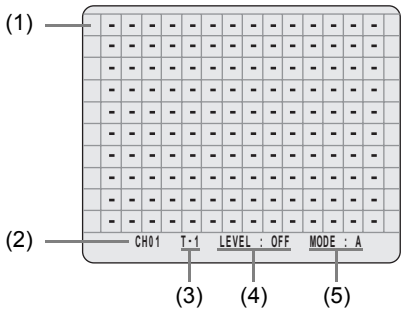
The <ALARM REC MODE SET> screen is displayed.




<ALARM REC MODE SET>
ALARM RECORDING : OFF
PICTURE QUALITY : ENHANCED
PICTURE QUALITY SET ->
AUDIO RECORDING : OFF
ALARM INTERLEAVE : ONLY
REC RATE: 12.5FPS, DURATION: 20SEC
PRE-ALARM RECORDING : ***
REC RATE: ***** FPS, DURATION: *****
ALARM TRIGGER : ALARM
MOTION SENSOR ->
<ALARM REC MODE SET>
ALARM RECORDING : ENABLED

Setting the motion sensors

Use the following procedure to set motion sensors on video from each camera so that alarms can be detected.



(1) Motion sensor setting
Display changes in response to the sensor condition. Settings are made using the jog dial.
-: Sensor off
A or B: Sensor on

(2) Camera number display
Changes when a [CAMERA SELECT] button is pressed. Use this item to select the camera for which motion sensors are to be set up.

(3) Time period
Select an interval set using "TIME PERIOD" (→P.74).

(4) LEVEL
Sets the sensitivity level of the motion sensors.
OFF: No motion sensor has been set.
1 to 10: A motion sensor is set. Lower values correspond to higher sensitivity levels and vice versa.

(5) MODE
Sets the detection method for the motion sensors. (→P.107)

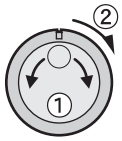
1 Make timer settings for "TIME PERIOD A" and "TIME PERIOD B" on the <TIME PERIOD SET> screen. (→P.74)

2 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

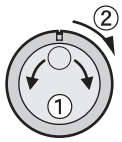
3 Turn the jog dial to select "2.RECORD SET" and then turn the shuttle dial clockwise.

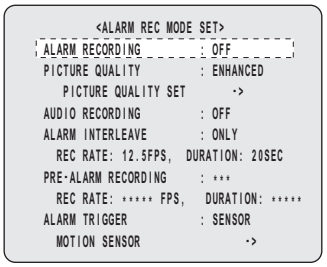
The <RECORD SET> screen is displayed.



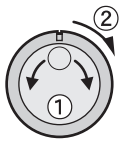
4 Turn the jog dial to select "7.ALARM REC MODE SET" and then turn the shuttle dial clockwise.

The <ALARM REC MODE SET> screen is displayed.




<ALARM REC MODE SET>
ALARM RECORDING : OFF
PICTURE QUALITY : ENHANCED
PICTURE QUALITY SET ->
AUDIO RECORDING : OFF
ALARM INTERLEAVE : ONLY
REC RATE: 12.5FPS, DURATION: 20SEC
PRE-ALARM RECORDING : ***
REC RATE: ***** FPS, DURATION: *****
ALARM TRIGGER : SENSOR
MOTION SENSOR ->
<ALARM REC MODE SET>
ALARM RECORDING : ENABLED
PICTURE QUALITY : ENHANCED
PICTURE QUALITY SET ->
AUDIO RECORDING : OFF
ALARM INTERLEAVE : ONLY
REC RATE: 12.5FPS, DURATION: 20SEC
PRE-ALARM RECORDING : OFF
REC RATE: ***** FPS, DURATION: *****
ALARM TRIGGER : SENSOR
MOTION SENSOR ->
CH01 T-1 LEVEL : OFF MODE : A

5 Turn the jog dial to select "MOTION SENSOR" and then turn the shuttle dial clockwise.

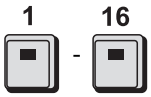


The <MOTION SENSOR> screen is displayed.

The cursor (reverse highlighting) is displayed at the top left position. Cursor can be moved to the left and right using the jog dial if a mark indicating such actions is displayed in the upper right of the screen.

6 Press a [CAMERA SELECT] button.

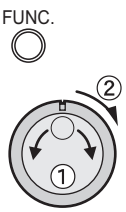
Press the button of the number of the camera for which motion sensors are to be set up.

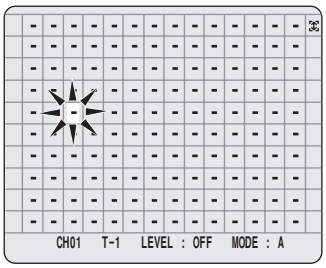


On the DSR-5709P, press the [CAMERA SELECT] 1-9 button.

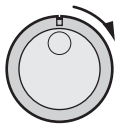
7 Turn the jog dial to move the cursor (reverse highlighting) to the position where a sensor is to be set and then turn the shuttle dial clockwise.

Turn the jog dial while pressing the [FUNC.] button to move the cursor (reverse highlighting) vertically.
Cursor can be moved up and down using the jog dial if a mark indicating such actions is displayed in the upper right of the screen.

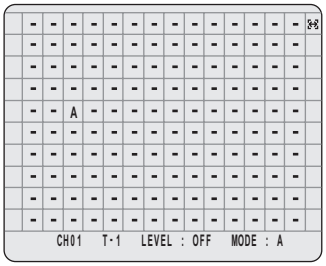




8 Turn the jog dial to select "A" or "B".

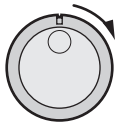


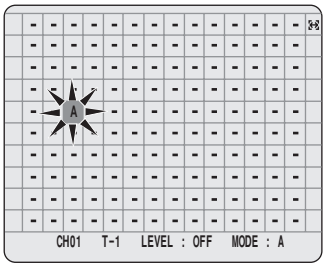
"A" or "B" : Sensor set
"-" : No sensor



9 Turn the shuttle dial clockwise twice.

The change is defined.

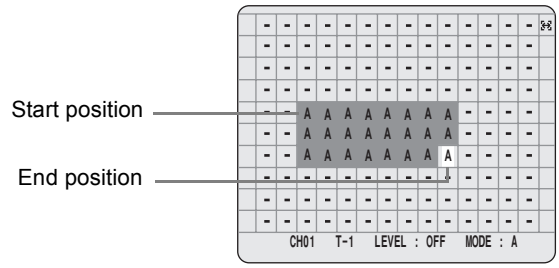




10 Use the same procedure to set other sensor positions.

■ To specify the start position and end position together within a range

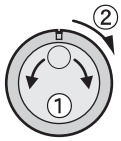
(1) Turn the jog dial to move the cursor (reverse highlighting) to the start position and then turn the shuttle dial clockwise.
(2) Turn the jog dial to select "A" or "B" and then turn the shuttle dial clockwise. ("A" or "B" are yellow.)
(3) Turn the jog dial to move the cursor (reverse highlighting) to the end position and then turn the shuttle dial clockwise.

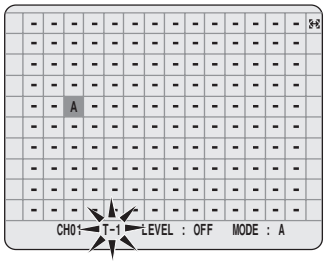


Setting time periods

11 Turn the jog dial to select "T-1" and then turn the shuttle dial clockwise.

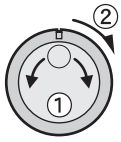
"T-1" flashes.

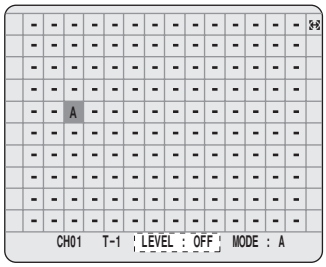




12 Turn the jog dial to select the time period and then turn the shuttle dial clockwise.

The cursor moves to "LEVEL".





[Settings] (◆ indicates default setting)

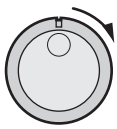
Setting	Description
◆T-1	Time period T-1
T-2	Time period T-2
T-3	Time period T-3
T-4	Time period T-4

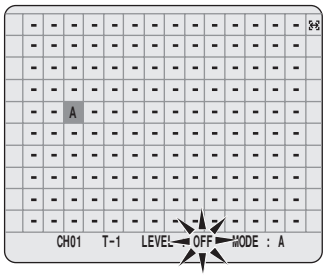
If the time period is set to "ALL DAY LONG", the display depends on the setting of "T-1".

Setting sensitivity levels

13 Turn the shuttle dial clockwise.

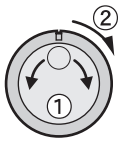
"OFF" flashes.

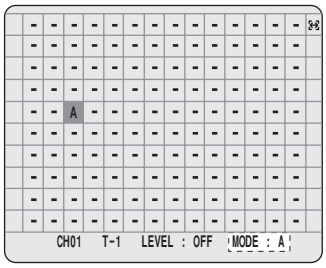




14 Turn the jog dial to select "OFF" or a sensitivity level between "1" to "10" and then turn the shuttle dial clockwise.

The cursor moves to "MODE".





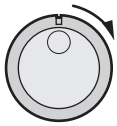
[Settings] (◆ indicates default setting)

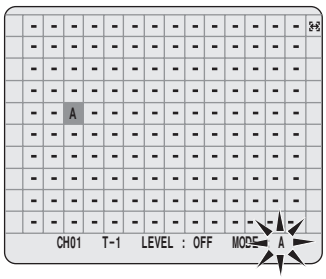
Setting	Description
◆OFF	Motion sensing is disabled.
1 to 10	Motion sensing is enabled. Lower numbers correspond to higher levels of sensitivity.

Setting sensor modes

15 Turn the shuttle dial clockwise.

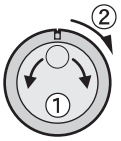
"A" flashes.

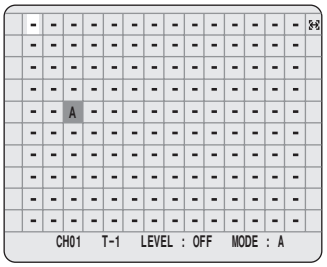




16 Turn the jog dial to select the "MODE" setting and then turn the shuttle dial clockwise.

The cursor moves to the top left sensor.





[Settings] (◆ indicates default setting)

Setting	Description
◆A	The motion sensor alarm is triggered when a moving object is detected in A.
B	The motion sensor alarm is triggered when a moving object is detected in B.
A AND B	The motion sensor alarm is triggered when a moving object is detected by a sensor in both A and B.
A AND NB	By setting A to important points (moving objects) and B to non-moving points, the motion sensor alarm is not triggered when the overall screen brightness changes. The motion sensor alarm only activates when A experiences a change and B does not.
A TO B	The motion sensor alarm is triggered when an object is detected moving from A to B. (within 2 seconds from A to B)
B TO A	The motion sensor alarm is triggered when an object is detected moving from B to A. (within 2 seconds from B to A)

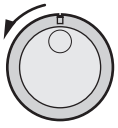
17 Use the same procedure to set "LEVEL" and "MODE" for "T-2" through "T-4".

CAUTION

- Motion sensor positions are common for "T-1" through "T-4" and different settings cannot be made.

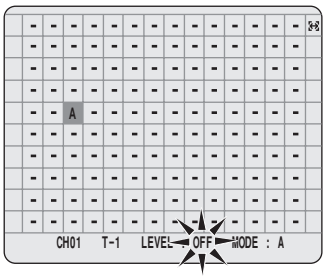
18 Turn the shuttle dial counter-clockwise.

Motion sensor settings are confirmed and the <ALARM REC MODE SET> screen is displayed once again.



■ To stop motion sensor recording

Press the [MENU] button and select “2.RECORD SET”, “7. ALARM REC MODE SET”, and “MOTION SENSOR” and when the motion sensor settings screen appears set “LEVEL” to “OFF”.



CAUTION

- The sensitivity level can be checked on the setting screen. When motion is detected, the sensor color changes from green to red, and a buzzer is sounded.
  If detection is too sensitive, an alarm can be triggered even by slight changes in lighting; accordingly, the sensitivity level should be set to match the camera location.

NOTE

- The period for “T-1” through “T-4” as set in step 12 changes to that of “TIME PERIOD A” or “TIME PERIOD B” on the <TIME PERIOD SET> screen.

Setting alarm operation and display

Use the following procedure to display the main monitor and monitor 2 when an alarm is detected.

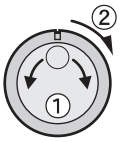
1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

MENU

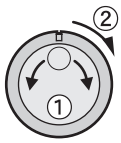
2 Turn the jog dial to select “2.RECORD SET” and then turn the shuttle dial clockwise.

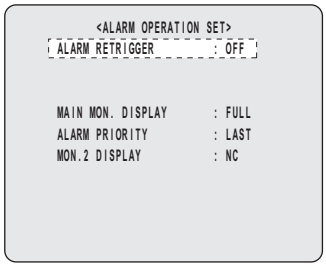
The <RECORD SET> screen is displayed.



3 Turn the jog dial to select “8.ALARM OPERATION SET” and then turn the shuttle dial clockwise.

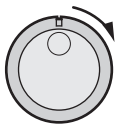
The <ALARM OPERATION SET> screen is displayed.





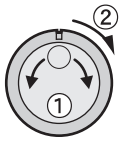
4 Turn the shuttle dial clockwise.

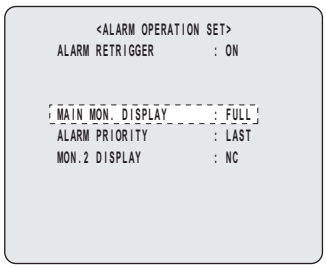
“OFF” flashes for “ALARM RETRIGGER”.



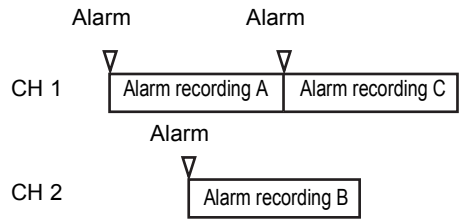
5 Turn the jog dial to select “ON” and then turn the shuttle dial clockwise.

The cursor moves to “MAIN MON. DISPLAY”.



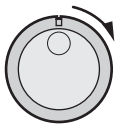


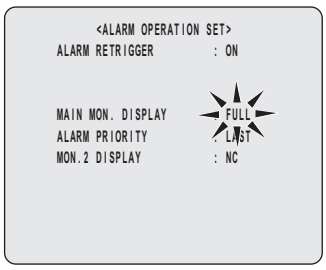
[Settings] (◆ indicates default setting)

Setting	Description
◆OFF	Even if a new alarm is received on the same channel during alarm recording, the duration is not extended.
ON	If a new alarm is received on the same channel during alarm recording, the duration is extended and both alarms are treated as one. (Example: Even if alarms A and C are received in succession, or alarms A, B and C are received in order as shown below, alarm recordings A and C are treated as one, provided that alarm C occurs while alarm recording is in progress for alarm A.) Example: 

6 Turn the shuttle dial clockwise.

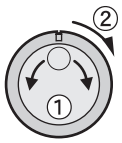
"FULL" flashes.

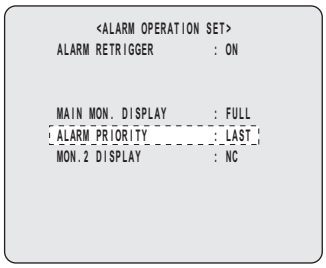




7 Turn the jog dial to select the "MAIN MON. DISPLAY" setting and then turn the shuttle dial clockwise.

The cursor moves to "ALARM PRIORITY".





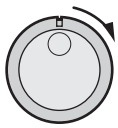
[Settings] (◆ indicates default setting)

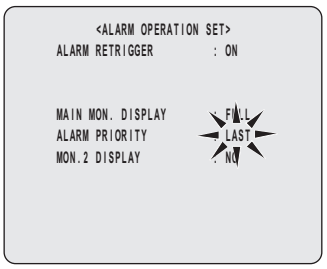
Setting	Description
◆FULL	When an alarm is detected, the main monitor displays in full screen format the video on the channel containing the alarm.
9 *1	When an alarm is detected, the main monitor displays multi 9 screens.
16*2	When an alarm is detected, the main monitor displays multi 16 screens.
NC	The display on the main monitor does not change when an alarm is detected.

*1 Multi screen display is laid out according to the settings on P.132. Therefore, the image for the channel for which an alarm was detected may not be displayed depending on the settings when multi 9 screen display is selected. Special care should be taken.
*2 Only for the DSR-5716P

8 Turn the shuttle dial clockwise.

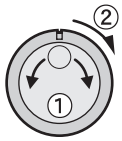
"LAST" flashes.

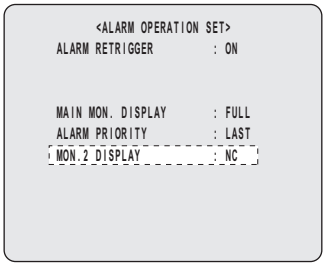




9 Turn the jog dial to select the "ALARM PRIORITY" setting and then turn the shuttle dial clockwise.

The cursor moves to "MON.2 DISPLAY".





[Settings] (◆ indicates default setting)

Setting	Description
◆LAST	When a number of alarms occur, the most recent alarm video is given priority and is displayed.
FIRST	When a number of alarms occur, only the video for the first alarm is displayed. However, if the duration for the first alarm expires, video for the next alarm is displayed.
SWITCH	When a number of alarms occur, the display switches between the video from the corresponding cameras, showing each for one second.

CAUTION

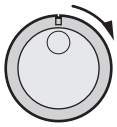
- After an alarm duration has ended, the display returns to the screen prior to the alarm.

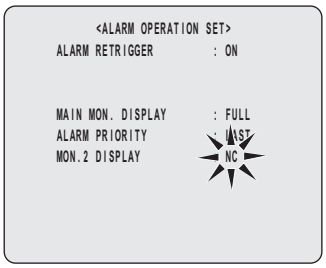
NOTE

- "ALARM PRIORITY" cannot be selected when "MAIN MON. DISPLAY" is set to "9", "16" or "NC".

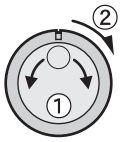
10 Turn the shuttle dial clockwise.

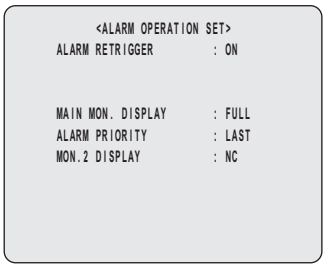
"NC" flashes.





11 Turn the jog dial to select the "MON.2 DISPLAY" value and then turn the shuttle dial clockwise.





[Settings] (◆ indicates default setting)

Setting	Description
◆NC	When an alarm is detected, Monitor 2 does not change.
SWITCH	When a number of alarms occur, the display switches between the video from the corresponding cameras, showing each for one second.
LAST	When a number of alarms occur, the most recent alarm video is given priority and is displayed.
FIRST	When a number of alarms occur, only the video for the first alarm is displayed. However, if the duration for the first alarm expires, video for the next alarm is displayed.

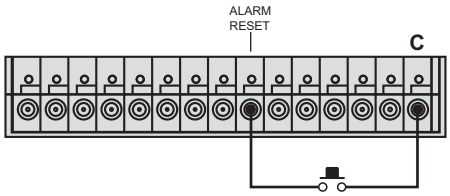
12 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

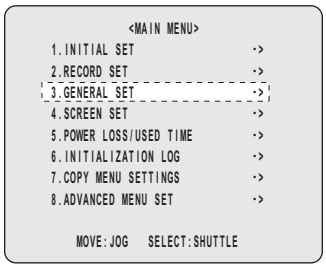
EXIT/OSD

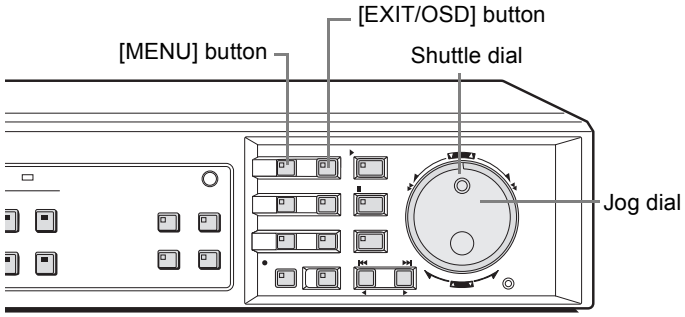
Canceling an alarm

To forcibly cancel an alarm during alarm operation, press the [CAMERA SELECT] button for the camera with the alarm and hold it for approximately 3 seconds. Alternatively, connect a switch between the ALARM RESET terminal and C terminal (the grounded terminal), and turn on the switch to cancel an alarm that occurs.



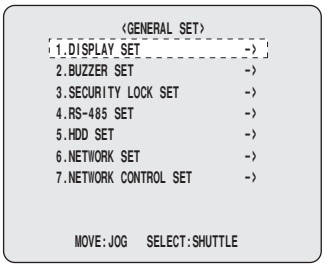
Main Menu





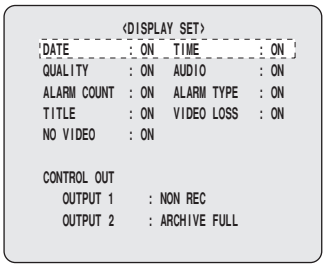
Configuration

The following settings can be made with <GENERAL SET>.



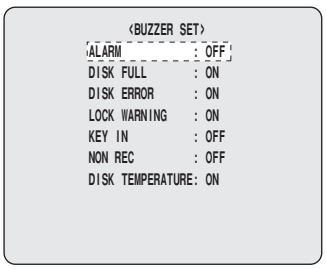
1. DISPLAY SET (→P.112)

Specifies information displayed on the monitor and output of the control terminal (OUTPUT1/2).



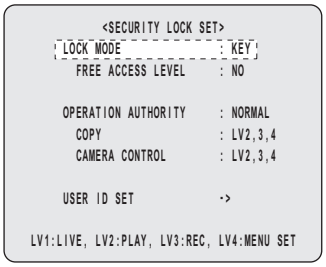
2. BUZZER SET (→P.114)

Turns the buzzer on or off.



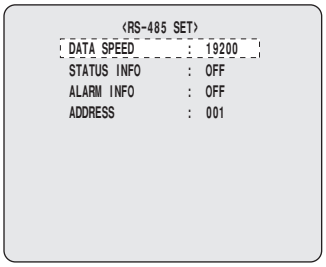
3. SECURITY LOCK SET (→P.115)

Sets the key lock, password lock and other lock modes, the user level for copying and camera control, and user ID.



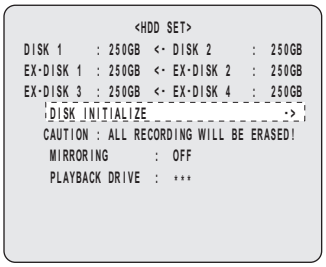
4. RS-485 SET (→P.120)

Makes settings when connecting a controller, etc. to the RS-485 terminal.



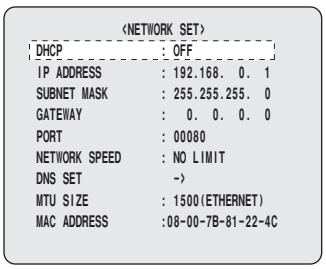
5. HDD SET (→P.122)

Perform hard disk initialization and mirroring settings.



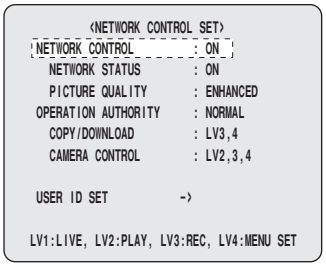
6. NETWORK SET (→P.125)

Allows the digital video recorder to be connected to a PC via a network.



7. NETWORK CONTROL SET (→P.128)

Sets the method for remote control over a network.



Setting data display

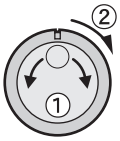
You can determine whether or not to display the information including date and time on the monitor. The default setting is “ON” for every item. Specify “OFF” according to necessity.

1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

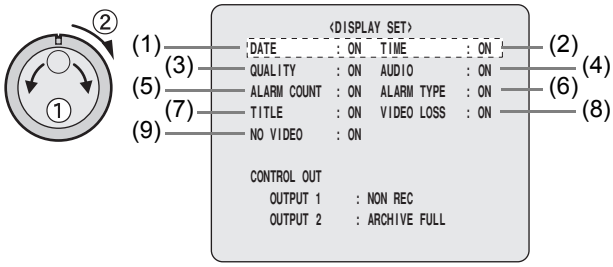
2 Turn the jog dial to select “3.GENERAL SET” and then turn the shuttle dial clockwise.

The <GENERAL SET> screen is displayed.



3 Turn the jog dial to select “1.DISPLAY SET” and then turn the shuttle dial clockwise.

The <DISPLAY SET> screen is displayed.



(1) DATE
Displays and hides the date.

(2) TIME
Displays and hides the time.

(3) QUALITY
Displays and hides the picture quality mode.

(4) AUDIO
Displays and hides the audio recording mode.

(5) ALARM COUNT
Displays and hides the number of current alarms.

(6) ALARM TYPE
Displays and hides the type of alarm recording.

(7) TITLE
Displays and hides the camera titles.

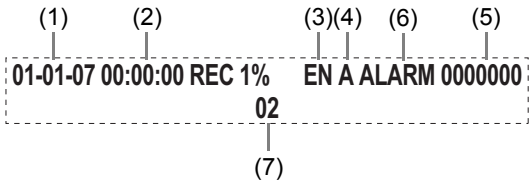
(8) VIDEO LOSS
Specifies whether or not to flash the [CAMERA SELECT] button lamp when video signal is interrupted.

(9) NO VIDEO
Specifies whether or not to display the “NO VIDEO” message for channels not connected to a camera.

NOTE

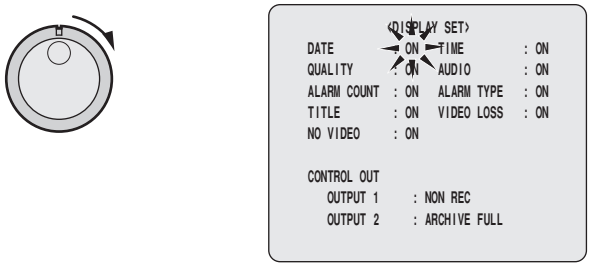
- Settings (1) to (7) are indicated in the operation display area on the monitor.

<Example>



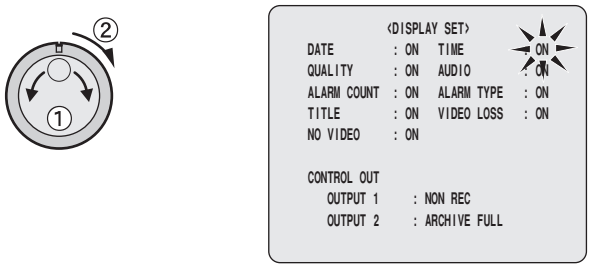
4 Turn the shuttle dial clockwise.

“ON” flashes for “DATE”.


‹DISPLAY SET›
DATE : ON TIME : ON
QUALITY : ON AUDIO : ON
ALARM COUNT : ON ALARM TYPE : ON
TITLE : ON VIDEO LOSS : ON
NO VIDEO : ON
CONTROL OUT
OUTPUT 1 : NON REC
OUTPUT 2 : ARCHIVE FULL

5 Turn the jog dial to select “ON ”or “OFF” and then turn the shuttle dial clockwise.

The cursor moves to “TIME” and “ON” flashes. Select “ON” or “OFF” using the jog dial.


②
①
‹DISPLAY SET›
DATE : ON TIME : ON
QUALITY : ON AUDIO : ON
ALARM COUNT : ON ALARM TYPE : ON
TITLE : ON VIDEO LOSS : ON
NO VIDEO : ON
CONTROL OUT
OUTPUT 1 : NON REC
OUTPUT 2 : ARCHIVE FULL

6 Use the same procedure to set the other items to “ON” or “OFF”.

NOTE

- A maximum of 9,999,999 alarms can be displayed in the operation display. When this number is exceeded, the alarm count returns to 0000000.
- When “ALARM RECORDING” is set to “OFF” on the <ALARM REC MODE SET> screen, the number of alarms and type of alarm recording are not displayed.
- When “ALARM RECORDING” is set to “ENABLED” on the <ALARM REC MODE SET> screen, the operation display changes as follows.
  - “ALARM” is displayed when alarm video is recorded or played back.
  - “PRE” is displayed when pre-alarm video is recorded or played back.
  - “ARCHIV” is displayed when video is played back from the archive area.

Setting for control terminal output

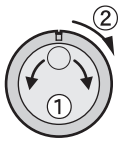
Next, specify setting for “CONTROL OUT”.
You can select output from the control terminal (OUTPUT 1/2) on the rear panel.

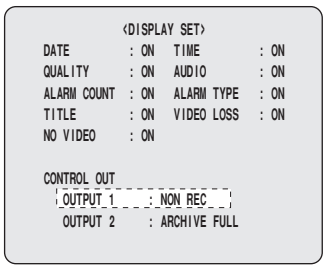
(1) OUTPUT 1 terminal
- NON REC (default setting):
  Outputs when recording is stopped.
- VIDEO LOSS:
  Outputs when video signal is interrupted.

(2) OUTPUT 2 terminal
- ARCHIVE FULL (default setting):
  Outputs when the remaining space of archive area reaches the warning level.
- TIMER REC OUT:
  Outputs when timer recording is stopped.

7 Turn the jog dial to select “OUTPUT 1”, and then turn the shuttle dial clockwise.

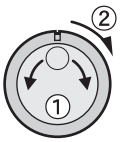
You will see “NON REC” flash.

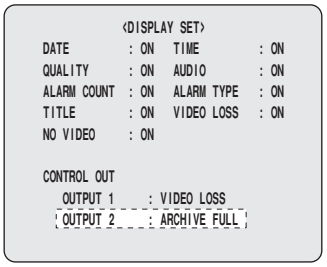



‹DISPLAY SET›
DATE : ON TIME : ON
QUALITY : ON AUDIO : ON
ALARM COUNT : ON ALARM TYPE : ON
TITLE : ON VIDEO LOSS : ON
NO VIDEO : ON
CONTROL OUT
OUTPUT 1 : NON REC
OUTPUT 2 : ARCHIVE FULL

8 Turn the jog dial to select “NON REC” or “VODEO LOSS”, and then turn the shuttle dial clockwise.

The cursor moves to “OUTPUT 2”.




‹DISPLAY SET›
DATE : ON TIME : ON
QUALITY : ON AUDIO : ON
ALARM COUNT : ON ALARM TYPE : ON
TITLE : ON VIDEO LOSS : ON
NO VIDEO : ON
CONTROL OUT
OUTPUT 1 : VIDEO LOSS
OUTPUT 2 : ARCHIVE FULL

9 Turn the shuttle dial clockwise.

You will see “ARCHIVE FULL” flash.

10 Turn the jog dial to select “ARCHIVE FULL” or “TIMER REC OUT”, and then turn the shuttle dial clockwise.

11 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

NOTE

- After video loss is detected, the setting can be cancelled by performing either of the following:

(1) Input the video signal.
(2) If no video input is required, use a [CAMERA SELECT] button to select the camera for which video loss was detected and then press the same button for approximately 3 seconds.

- The output of “VIDEO LOSS” is provided independently, even if you specify “OFF” for “VIDEO LOSS” in setting data display. (→P.112)

Setting the buzzer

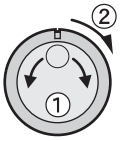
Use the following procedure to set a warning buzzer to sound for alarms or when hard disk space becomes insufficient.

1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

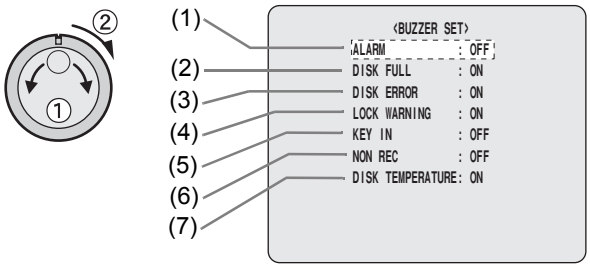
2 Turn the jog dial to select “3.GENERAL SET” and then turn the shuttle dial clockwise.

The <GENERAL SET> screen is displayed.



3 Turn the jog dial to select “2.BUZZER SET” and then turn the shuttle dial clockwise.

The <BUZZER SET> screen is displayed.



(1) ALARM (default setting: OFF)
Sounds a buzzer when an alarm occurs.

(2) DISK FULL (default setting: ON)
Sounds a buzzer when overwriting is not permitted and the hard disk capacity becomes insufficient.

(3) DISK ERROR (default setting: ON)
Sounds a buzzer accompanied with a warning message, when an abnormal condition has occurred in the hard disk drive.

(4) LOCK WARNING (default setting: ON)
Sounds a buzzer if a button is pressed while the security lock is on. Specifically, the buzzer sounds twice with an interval of approximately 0.5 seconds.

(5) KEY IN (default setting: OFF)
Sounds a buzzer when a button is pressed.

(6) NON REC (default setting: OFF)
Sounds a buzzer when recording is stopped.

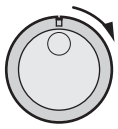
(7) DISK TEMPERATURE (default setting: ON)
Sounds a buzzer accompanied with a warning message, when the temperature has exceeded a given value in the hard disk drive.

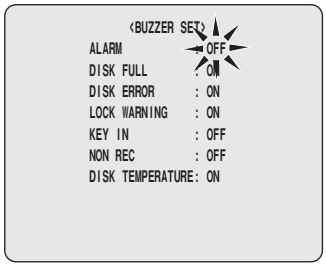
CAUTION

- Setting is invalid when the hard disk is operated in a RAID unit.
- Select “OFF” if you use hard disks other than those designated by SANYO, as this function may not properly work on them.

4 Turn the shuttle dial clockwise.

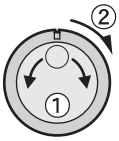
“OFF” flashes for “ALARM”.

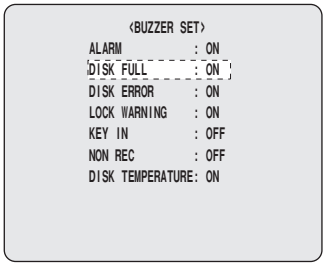




5 Turn the jog dial to select “ON” or “OFF” and then turn the shuttle dial clockwise.

The cursor moves to “DISK FULL”.





[Settings] (◆ indicates default setting)

Setting	Description
◆OFF	The buzzer does not sound when an alarm occurs.
ON	The buzzer sounds when an alarm occurs.

6 Use the same procedure to set the other items to “ON” or “OFF”.

7 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

NOTE

- To stop a buzzer, press any button or turn either the jog dial or shuttle dial.

Setting the security lock

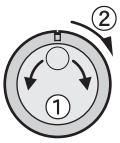
Use the following procedure to restrict operation of the digital video recorder based on the user level.

1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

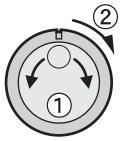
2 Turn the jog dial to select “3.GENERAL SET” and then turn the shuttle dial clockwise.

The <GENERAL SET> screen is displayed.



3 Turn the jog dial to select “3.SECURITY LOCK SET” and then turn the shuttle dial clockwise.

The <SECURITY LOCK SET> screen is displayed.




```
<SECURITY LOCK SET>
LOCK MODE              : KEY
  FREE ACCESS LEVEL    : NO

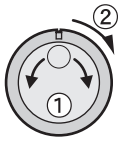
OPERATION AUTHORITY    : NORMAL
  COPY                 : LV2,3,4
  CAMERA CONTROL       : LV2,3,4

USER ID SET            ->

LV1:LIVE, LV2:PLAY, LV3:REC, LV4:MENU SET
```

4 Turn the jog dial to select “LOCK MODE” and then turn the shuttle dial clockwise.

“KEY” flashes.




```
<SECURITY LOCK SET>
LOCK MODE              : KEY
  FREE ACCESS LEVEL    : NO

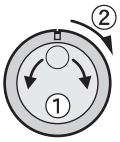
OPERATION AUTHORITY    : NORMAL
  COPY                 : LV2,3,4
  CAMERA CONTROL       : LV2,3,4

USER ID SET            ->

LV1:LIVE, LV2:PLAY, LV3:REC, LV4:MENU SET
```

5 Turn the jog dial to select the mode and then turn the shuttle dial clockwise.

If “PASSWORD” is selected, the cursor moves to “FREE ACCESS LEVEL”. Proceed to step 6.
If “KEY” or “NETWORK” is selected, the cursor moves to “OPERATION AUTHORITY”. Proceed to step 7.




```
<SECURITY LOCK SET>
LOCK MODE              : PASSWORD
  FREE ACCESS LEVEL    : NO

OPERATION AUTHORITY    : NORMAL
  COPY                 : LV2,3,4
  CAMERA CONTROL       : LV2,3,4

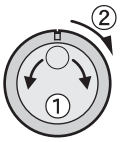
USER ID SET            ->

LV1:LIVE, LV2:PLAY, LV3:REC, LV4:MENU SET
```

[Settings] (◆ indicates default setting)

Setting	Description
◆KEY	All key operations are locked. When keys are pressed while locked, buzzer is sounded.
PASSWORD	Password lock is enabled. When keys are pressed while locked, the input screen for user ID and password is displayed and operation restrictions are restricted according to ID level.
NETWORK	Control the DVR from a PC on a network.

6 If “LOCK MODE” is set to “PASSWORD”, turn the jog dial to select “FREE ACCESS LEVEL” and then turn the shuttle dial clockwise.




```
<SECURITY LOCK SET>
LOCK MODE              : PASSWORD
  FREE ACCESS LEVEL    : NO

OPERATION AUTHORITY    : NORMAL
  COPY                 : LV2,3,4
  CAMERA CONTROL       : LV2,3,4

USER ID SET            ->

LV1:LIVE, LV2:PLAY, LV3:REC, LV4:MENU SET
```

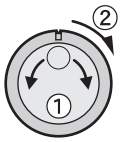
[Settings] (◆ indicates default setting)

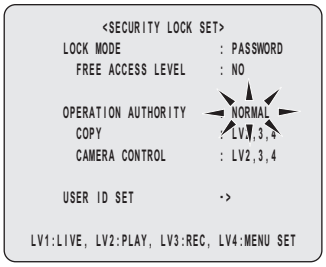
Setting	Description
◆NON	Locks all operations.
LV1	Excludes LV1 users from the password lock.
LV2	Excludes LV2 users from the password lock.
LV3	Excludes LV3 users from the password lock.

Refer to P.117 for details on user level and authorization.

7 Turn the jog dial to select “OPERATION AUTHORITY” and then turn the shuttle dial clockwise.

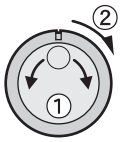
“NORMAL” flashes.

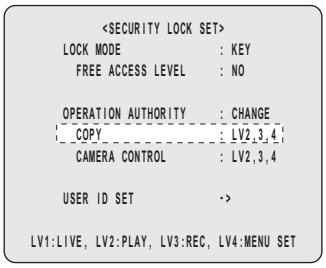




8 Turn the jog dial to select “NORMAL” or “CHANGE” and then turn the shuttle dial clockwise.

If no changes are to be made to user privileges, select “NORMAL” and go to step 13.
The cursor moves to “COPY”.



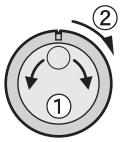


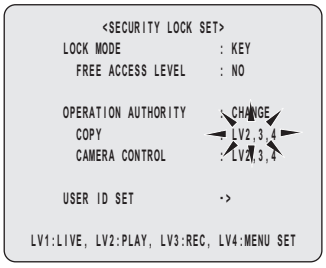
[Settings] (◆ indicates default setting)

Setting	Description
◆NORMAL	User privileges remain at the default setting.
CHANGE	Changes copying to external media and camera control privileges.

9 If “OPERATION AUTHORITY” is set to “CHANGE”, turn the jog dial to select “COPY” and then turn the shuttle dial clockwise.

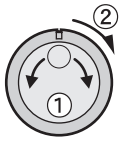
“LV2, 3, 4” flashes for “COPY”.

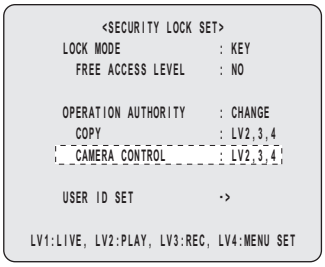




10 Turn the jog dial to select the copy level and then turn the shuttle dial clockwise.

The cursor moves to “CAMERA CONTROL”.



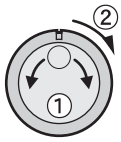


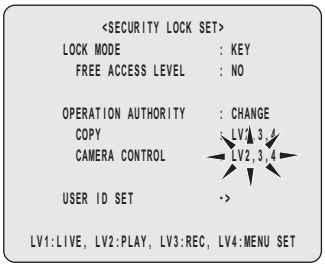
[Settings] (◆ indicates default setting)

Setting	Description
◆LV2, 3, 4	Allows users at Level 2 or higher to copy images to external media.
LV3, 4	Allows users at Level 3 or higher to copy images to external media.
LV4	Allows users at Level 4 to copy images to external media.

11 Turn the shuttle dial clockwise.

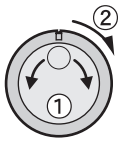
“LV2, 3, 4” flashes for “CAMERA CONTROL”.

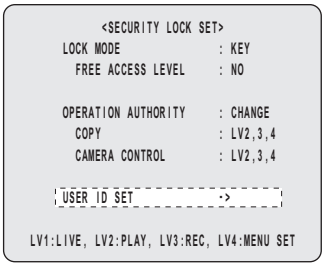




12 Turn the jog dial to select the camera control level and then turn the shuttle dial clockwise.

The cursor moves to “USER ID SET”.





[Settings] (◆ indicates default setting)

Setting	Description
◆LV2, 3, 4	Allows users at Level 2 or higher to control cameras from the digital video recorder.
LV3, 4	Allows users at Level 3 or higher to control cameras from the digital video recorder.
LV4	Allows users at Level 4 to control cameras from the digital video recorder.

13 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

Setting user ID

Set a user ID and password to restrict operation of the digital video recorder directly or through the network.

■ User level and privileges

Select from the following four user levels.

Operation privilege \ Level	LV1	LV2	LV3	LV4
Monitoring	○	○	○	○
Playback/ searching	×	○	○	○
Recording	×	×	○	○
Menu operation	×	×	×	○

Registering a user

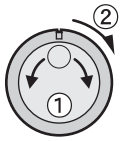
Use the following procedure to set the user ID, password and level.
The user ID must be between one and eight alphanumeric characters, and the password between four and eight alphanumeric characters.
Characters that can be entered: 0 to 9, A to Z

1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

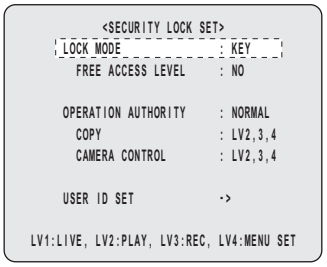
2 Turn the jog dial to select “3.GENERAL SET” and then turn the shuttle dial clockwise.

The <GENERAL SET> screen is displayed.



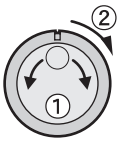
3 Turn the jog dial to select “3.SECURITY LOCK SET” and then turn the shuttle dial clockwise.

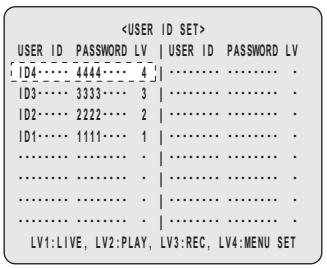
The <SECURITY LOCK SET> screen is displayed.



4 Turn the jog dial to select “USER ID SET” and then turn the shuttle dial clockwise.

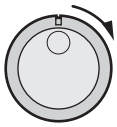
The <USER ID SET> screen is displayed.

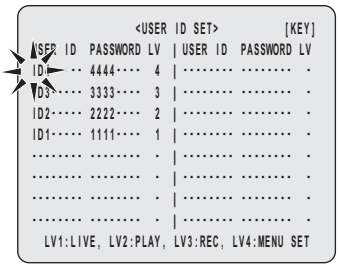




5 Turn the shuttle dial clockwise.

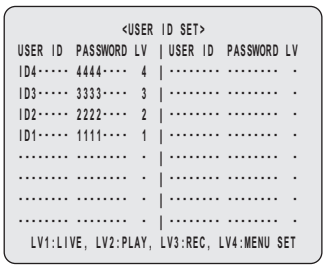
The first user ID entry bar "|" flashes.





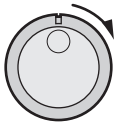
6 Enter a user ID.

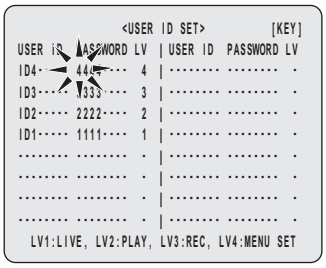
Use the jog dial, shuttle dial or [CAMERA SELECT] buttons to enter up to eight alphanumeric characters. Refer to "Setting camera titles" (→P.70) for more details regarding how to enter characters.



7 Turn the shuttle dial clockwise.

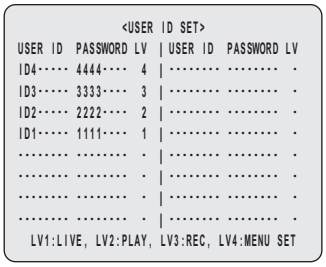
The first password entry bar "4" flashes.





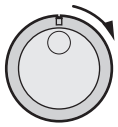
8 Enter a password.

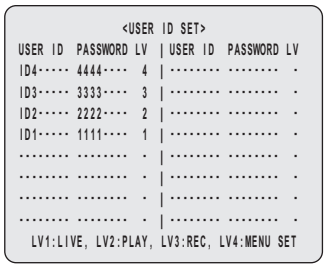
Use the jog dial, shuttle dial or [CAMERA SELECT] buttons to enter between four and eight alphanumeric characters. Refer to "Setting camera titles" (→P.70) for more details regarding how to enter characters.



9 Turn the shuttle dial clockwise.

The password is confirmed.





CAUTION

- The "LV" setting registered on line 1 cannot be changed from "4" (the user ID and password can be changed). To change the level, register a separate user on a different line. After the password is confirmed for line 2 or any line thereafter, the cursor moves to the "LV" setting. Set the user level.
- The same "USER ID" cannot be registered more than once.

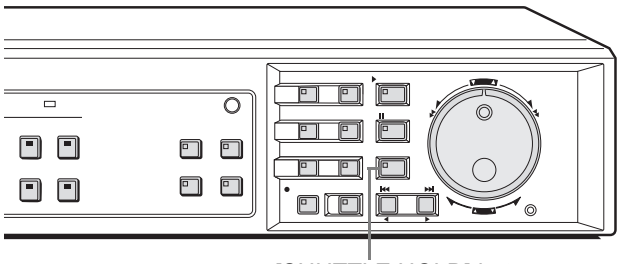
10 Use the same procedure to register other users.

11 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

EXIT/OSD

Turning on the key lock, password lock and network lock



[SHUTTLE HOLD] button

1 With the normal monitoring screen displayed, press the [SHUTTLE HOLD] button for approximately 3 seconds.

The LOCK indicator on the front panel lights up and a buzzer sounds to indicate setting of key lock, password lock, or network lock.

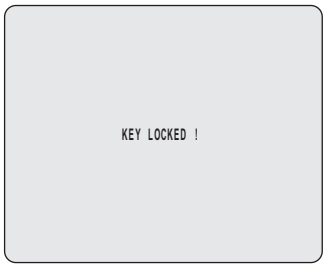
SHUTTLE HOLD

CAUTION

- The lock cannot be activated during the following operations.
  - While displaying the menu screen, search screen, or copy screen
  - While playing back recorded image
  - While camera is being controlled
  - While video is being magnified

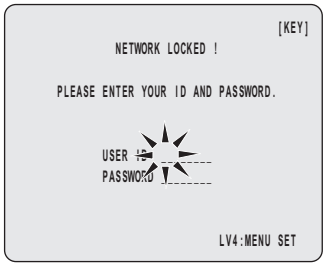
2 Confirm the lock status.

If any operation is made other than by pressing the [SHUTTLE HOLD] button during key lock or network lock, the following screen is displayed.



If a user without privileges operates the digital video recorder during password lock, the following screen is displayed.

If a user without privileges presses the [SHUTTLE HOLD] button to operate the digital video recorder during network lock, the following screen is displayed.



Canceling the key lock

1 During key lock, press the [SHUTTLE HOLD] button for approximately 3 seconds.

The LOCK indicator on the front panel turns off and a buzzer sounds to indicate deactivation of the key lock.

SHUTTLE HOLD

Canceling the password lock or network lock

Example: While password lock is activated

1 During password lock, press the [SHUTTLE HOLD] button for approximately 3 seconds.

The following screen is displayed.

SHUTTLE HOLD

2 Enter the user ID and password.

Use the jog dial, shuttle dial or [CAMERA SELECT] buttons to enter the characters. Refer to “Setting camera titles” (→P.70) for more details regarding how to enter characters.

The LOCK indicator on the front panel turns off and a buzzer sounds to indicate deactivation of the password lock.

Setting RS-485

Settings are required when the RS-485 terminals (A and B) are connected with a system controller or other devices.

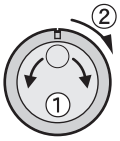
1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

MENU

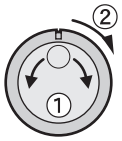
2 Turn the jog dial to select “3.GENERAL SET” and then turn the shuttle dial clockwise.

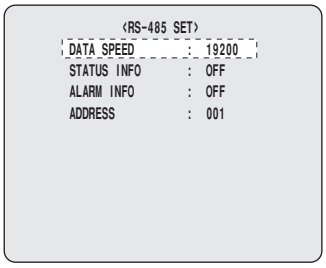
The <GENERAL SET> screen is displayed.



3 Turn the jog dial to select “4.RS-485 SET” and then turn the shuttle dial clockwise.

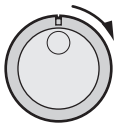
The <RS-485 SET> screen is displayed.

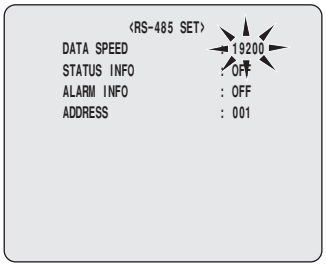




4 Turn the shuttle dial clockwise.

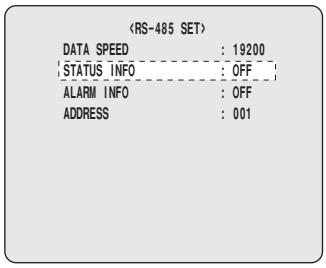
“19200” flashes for “DATA SPEED”.





5 Turn the jog dial to select the “DATA SPEED” setting and then turn the shuttle dial clockwise.

The cursor moves to “STATUS INFO”.

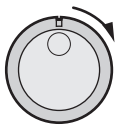


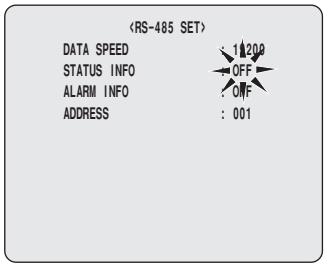
[Settings] (◆ indicates default setting)

Setting	Description
2400, 4800, 9600, ◆19200	Sets the data speed.

6 Turn the shuttle dial clockwise.

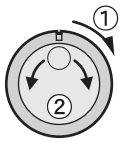
“OFF” flashes for “STATUS INFO”.

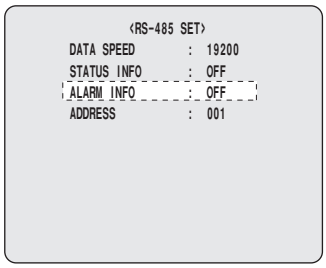




7 Turn the jog dial to select “STATUS INFO” and then turn the shuttle dial clockwise.

The cursor moves to “ALARM INFO”.



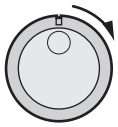


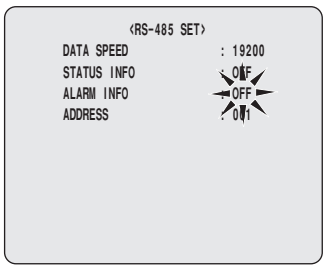
[Settings] (◆ indicates default setting)

Setting	Description
ON	Status information is transmitted.
◆OFF	Status information is not transmitted.

8 Turn the shuttle dial clockwise.

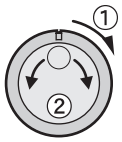
"OFF" flashes for "ALARM INFO".

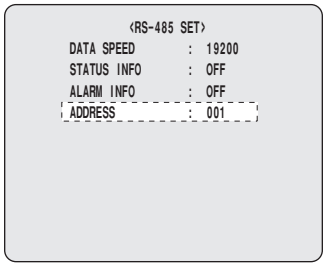




9 Turn the jog dial to select "ALARM INFO" setting and then turn the shuttle dial clockwise.

The cursor moves to "ADDRESS".



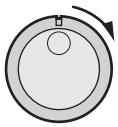


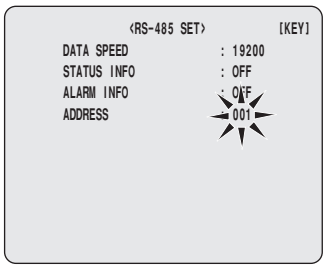
[Settings] (◆ indicates default setting)

Setting	Description
ON	Alarm information is transmitted.
◆OFF	Alarm information is not transmitted.

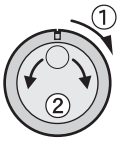
10 Turn the shuttle dial clockwise.

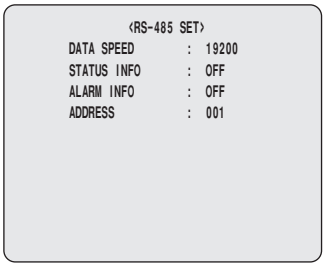
"001" flashes for "ADDRESS".





11 Turn the jog dial to select the "ADDRESS" setting and then turn the shuttle dial clockwise.





[Settings] (The default setting is "001")

Setting	Description
000 - 127	Sets the address of the digital video recorder.

When connecting a camera with remote operation capability, set this address between "001" and "008" and make camera control settings. (→P.150)

12 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

EXIT/OSD

Hard disk initialization and mirroring

This section describes how to initialize the hard disk and perform mirroring.
The internal hard disk capacity is displayed as DISK 1 and DISK 2; the hard disk capacity for the expansion unit is displayed as EX-DISK 1 to 4.

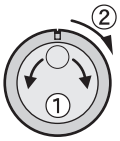
Initializing the hard disk

1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

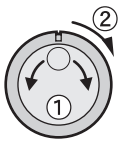
2 Turn the jog dial to select “3.GENERAL SET” and then turn the shuttle dial clockwise.

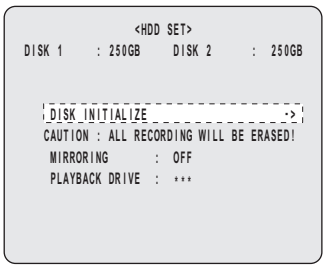
The <GENERAL SET> screen is displayed.



3 Turn the jog dial to select “5.HDD SET” and then turn the shuttle dial clockwise.

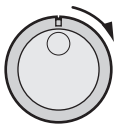
The <HDD SET> screen is displayed.





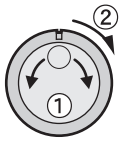
4 Then turn the shuttle dial clockwise.

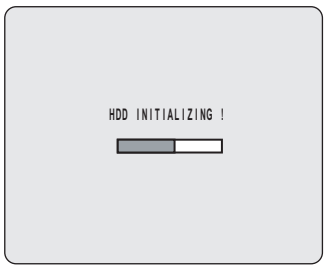
The <WARNING> screen is displayed. “NO” flashes.



5 Turn the jog dial to select “YES” and then turn the shuttle dial clockwise.

The “HDD INITIALIZING !” screen is displayed and the hard disk is initialized.
When initialization is completed, the display returns to the <HDD SET> screen.





6 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

Setting mirroring

Set mirroring when two hard disks are built-in or when hard disk expansion has been carried out and even numbered hard disks are set.
When mirroring has been set, the same image can be recorded to two hard disks.
If there is a recording error, the <HDD SET> screen can be used to select another hard disk to read the data. (→P.124)
When mirroring is set for hard disks of different capacities, mirroring occurs on the hard disk with the smaller capacity.

CAUTION

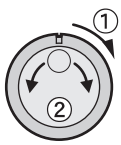
- Once mirroring is set, configurable recording rates are limited for use in normal recording, pre-alarm recording and program recording (including alarm program recording).
- When using a RAID unit for mirroring, set “MIRRORING” for the DVR unit to “OFF”.

1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

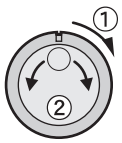
2 Turn the jog dial to select “3.GENERAL SET”and then turn the shuttle dial clockwise.

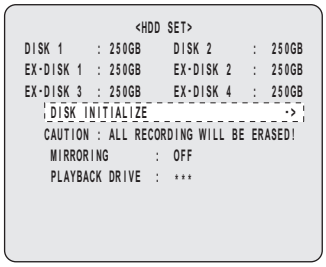
The <GENERAL SET> screen is displayed.



3 Turn the jog dial to select “5.HDD SET” and then turn the shuttle dial clockwise.

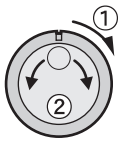
The <HDD SET> screen is displayed.

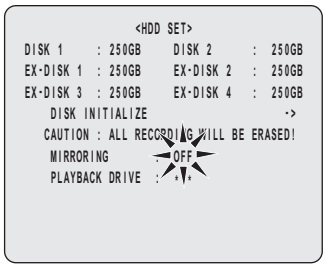




4 Turn the jog dial to select “MIRRORING” and then turn the shuttle dial clockwise.

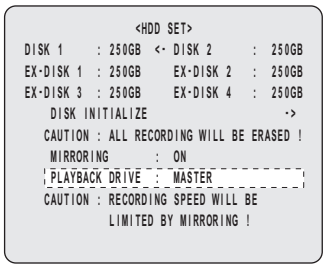
“OFF” flashes.





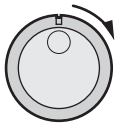
5 Turn the jog dial to select “ON” and then turn the shuttle dial clockwise.

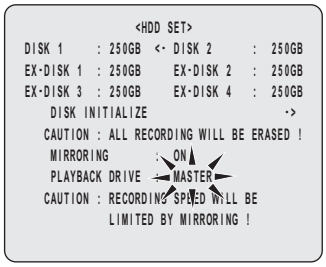
“MASTER” is displayed on the “PLAYBACK DRIVE”. An arrow is displayed on the screen between the disks.



6 Turn the shuttle dial clockwise.

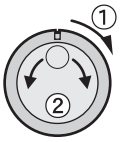
“MASTER” flashes.

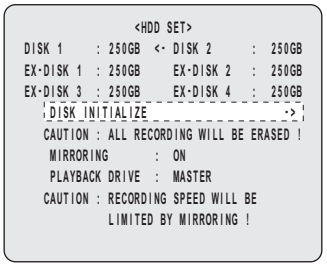




7 Turn the jog dial to select “MASTER” or “SLAVE” and then turn the shuttle dial clockwise.

The cursor moves to “DISK INITIALIZE”.



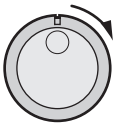


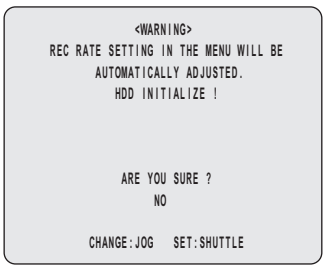
[Settings] (◆ indicates default setting)

Setting	Description
◆MASTER	Playback from the master disk.
SLAVE	Playback from the slave disk.

8 Turn the shuttle dial clockwise.

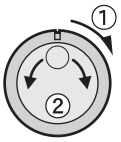
The <WARNING> screen is displayed.

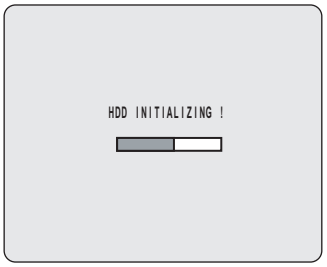




9 Turn the jog dial to select “YES” and then turn the shuttle dial clockwise.

The “HDD INITIALIZING !” screen is displayed and the hard disk is initialized.
When initialization is completed, the display returns to the <HDD SET> screen.





10 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

EXIT/OSD

NOTE

- Set mirroring to automatically restrict the recording rate upper limit (i.e., set to half of the normal value).

Switching playback disks

When mirroring is set to “ON” and a recording error occurs, change the hard disk used for playback.

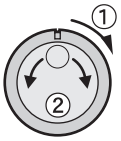
1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

MENU

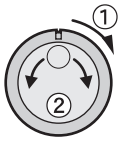
2 Turn the jog dial to select “3.GENERAL SET” and then turn the shuttle dial clockwise.

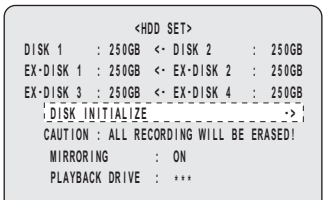
The <GENERAL SET> screen is displayed.



3 Turn the jog dial to select “5.HDD SET” and then turn the shuttle dial clockwise.

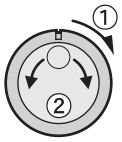
The <HDD SET> screen is displayed.

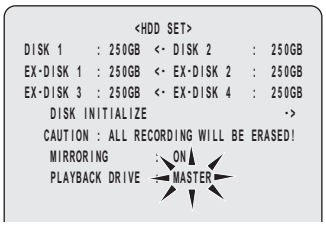




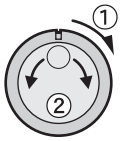
4 Turn the jog dial to select “PLAYBACK DRIVE” and then turn the shuttle dial clockwise.

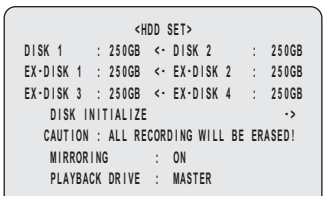
“MASTER” flashes.





5 Turn the jog dial to select “MASTER” or “SLAVE” and then turn the shuttle dial clockwise.





[Settings] (◆ indicates default setting)

Setting	Description
◆MASTER	Playback from the master disk.
SLAVE	Playback from the slave disk.

6 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

EXIT/OSD

Expanding (Replacing) and initializing the hard disk

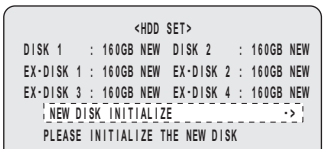
Please contact the dealer from whom you purchased this digital video recorder regarding hard disk expansion (replacement). An optional S-ATA board and an external hard disk drive expansion unit (VA-EXH series), or optional SCSI board and RAID unit can be used with this digital video recorder. All of these optional components are sold separately.

CAUTION

- Initialization must always be performed after expanding the hard disk.
- All important recordings should be copied to USB memory or other storage media before expanding the hard disk.
- When connecting an expansion unit to the DVR, install two internal hard disks to the DVR. If internal hard disks are installed after the expansion unit is connected, all hard disks must be initialized.
- The expansion unit is not interchangeable on a single DVR unit.
- When turning on the system in connection to an external expansion unit, first turn power on to the external unit, and then to the digital video recorder. When turning off the system, first turn power off to the digital video recorder, and then to the external unit.

The <HDD SET> screen is displayed in the following manner when hard disk expansion is carried out for the DVR or external expansion unit.

“NEW” is displayed to the right of the hard disk capacity for new hard disks.



To initialize a recently expanded hard disk, select “NEW DISK INITIALIZE”.
To initialize all connected hard disks, select “ALL DISK INITIALIZE”.

NOTE

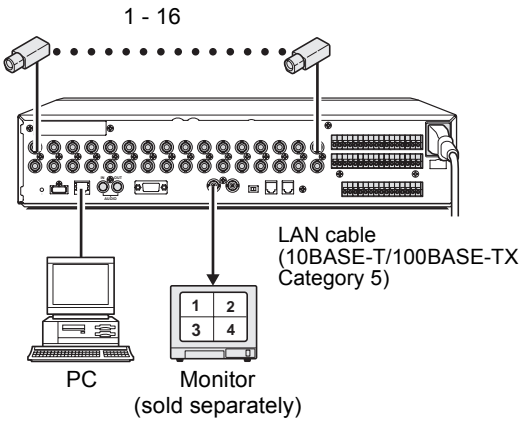
- When a RAID unit is connected, “ARRAY” is displayed instead of “EX-DISK”.
- When a RAID unit is connected, recording and playback cannot be carried out on the internal hard disk of the DVR.
- The digital video recorder does not support the disk space change of the RAID unit currently used for recording. When you change disk space, you must separate ARRAY before you start the reconfiguration of the system, regardless of the functions of the RAID unit. Then reboot the digital video recorder and initialize ARRAY.

Network settings

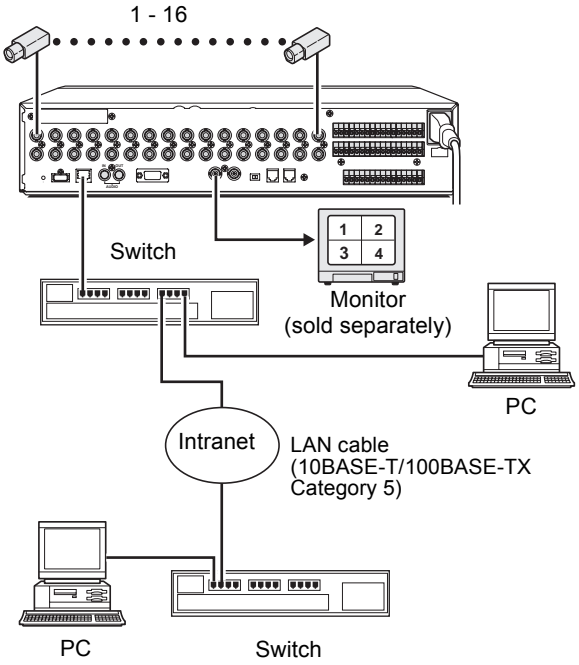
Use the following procedure to make menu settings for the digital video recorder and to monitor video from a PC via a network (LAN).
A LAN cable must be connected to the LAN terminal on the rear panel before proceeding.

Making network connections

- Connecting to a PC directly (without using a switch)



- Connecting to an intranet (using a switch)



Making network settings

The setting is necessary for controlling the DVR from a PC on a network.
Contact the network administrator for more details on setting values.

- DHCP

Set whether the IP address is automatically acquired from the DHCP server or manually set. Set “ON” when automatically acquiring an IP address from an Internet service provider or from a DHCP server on a LAN, and set “OFF” when using a fixed IP address.

- IP ADDRESS

Select “OFF” for “DHCP” to set. Generally, a private IP address is used when a fixed IP address is set in a LAN (example: 192.168.0.0 – 192.168.255.255).
Be sure not to duplicate IP addresses from other devices.

- SUBNET MASK

Select “OFF” for “DHCP” to set. The same value is set throughout the LAN.

- GATEWAY

Select “OFF” for “DHCP” to set. When connecting from a LAN to a WAN or other differing network, specify the device IP address (on the LAN side).

- PORT

Sets open port. Default value is “80”.

- NETWORK SPEED

Sets restrictions for traffic in the LAN. Normally, set it to “NO LIMIT”.

- DNS SET

Settings relating to the Domain Name Server are performed in another screen.

  - DNS SERVER

  Set whether the DNS server IP address is automatically acquired or manually set. Generally this setting is “AUTO” when “ON” is selected for “DHCP”. When the DNS server address is specified by a network administrator or Internet service provider, select “MANUAL” and set the following items, “PRIMARY” and “SECONDARY”.

  - PRIMARY
  - SECONDARY

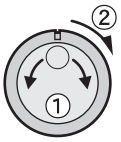
  Set when “DNS SERVER” is set to “MANUAL”. Set the DNS server address received from the network administrator or Internet service provider.

1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

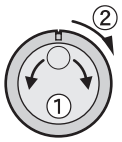
2 Turn the jog dial to select “3.GENERAL SET” and then turn the shuttle dial clockwise.

The <GENERAL SET> screen is displayed.



3 Turn the jog dial to select “6.NETWORK SET” and then turn the shuttle dial clockwise.

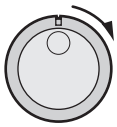
The <NETWORK SET> screen is displayed.




```
<NETWORK SET>
DHCP              : ON
IP ADDRESS        :   0.  0.  0.  0
SUBNET MASK       :   0.  0.  0.  0
GATEWAY           :   0.  0.  0.  0
PORT              : 00080
NETWORK SPEED     : NO LIMIT
DNS SET             ->
MTU SIZE          : 1500(ETHERNET)
MAC ADDRESS       :08-00-7B-81-22-4C
```

4 Turn the shuttle dial clockwise.

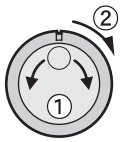
“ON” flashes for “DHCP”.



```
<NETWORK SET>
DHCP              : ON
IP ADDRESS        :   0.  0.  0.  0
SUBNET MASK       :   0.  0.  0.  0
GATEWAY           :   0.  0.  0.  0
PORT              : 00080
NETWORK SPEED     : NO LIMIT
DNS SET             ->
MTU SIZE          : 1500(ETHERNET)
MAC ADDRESS       :08-00-7B-81-22-4C
```

5 Turn the jog dial to select “ON” or “OFF” and then turn the shuttle dial clockwise.

When “ON” is selected, proceed to step 9.
When “OFF” is selected, the cursor moves to “IP ADDRESS”.




```
<NETWORK SET>
DHCP              : OFF
IP ADDRESS        : 192.168.  0.  1
SUBNET MASK       : 255.255.255.  0
GATEWAY           :   0.  0.  0.  0
PORT              : 00080
NETWORK SPEED     : NO LIMIT
DNS SET             ->
MTU SIZE          : 1500(ETHERNET)
MAC ADDRESS       :08-00-7B-81-22-4C
```

6 Set “IP ADDRESS”.

(Default setting: 192. 168. 0. 1)
(1) Turn the shuttle dial clockwise.
(2) Turn the jog dial to select the first number (0 to 255) and then turn the shuttle dial clockwise. (Also use the [CAMERA SELECT] 1-9 buttons or the [QUAD] button (0) to input.)
(3) Use the same procedure to enter the remaining numbers.

```
<NETWORK SET>                [KEY]
DHCP              : OFF
IP ADDRESS        : 192.168.  0.  1
SUBNET MASK       : 255.255.255.  0
GATEWAY           :   0.  0.  0.  0
PORT              : 00080
NETWORK SPEED     : NO LIMIT
```

7 Set “SUBNET MASK”.

(Default setting: 255. 255. 255. 0)
Use the same procedure for setting “IP ADDRESS” to set the subnet mask.
Set each field within the range of 0 to 255.

```
<NETWORK SET>                [KEY]
DHCP              : OFF
IP ADDRESS        : 192.168.  0.  1
SUBNET MASK       : 255.255.255.  0
GATEWAY           :   0.  0.  0.  0
PORT              : 00080
NETWORK SPEED     : NO LIMIT
```

8 Set “GATEWAY”.

(Default setting: 0. 0. 0. 0)
Use the same procedure for setting “IP ADDRESS” to set the gateway.
Set each field within the range of 0 to 255.

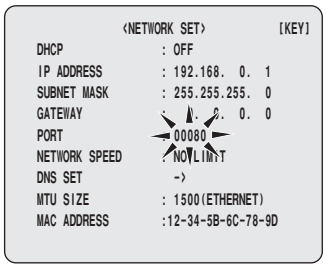
```
<NETWORK SET>                [KEY]
DHCP              : OFF
IP ADDRESS        : 192.168.  0.  1
SUBNET MASK       : 255.255.255.  0
GATEWAY           :   0.  0.  0.  0
PORT              : 00080
NETWORK SPEED     : NO LIMIT
```

9 Set “PORT”.

(Default setting: 00080)

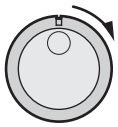
(1) Turn the shuttle dial clockwise.

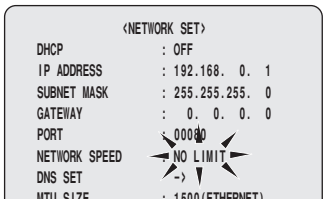
(2) Turn the jog dial to select the setting and then turn the shuttle dial clockwise.



10 Turn the shuttle dial clockwise.

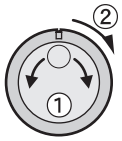
“NO LIMIT” flashes.

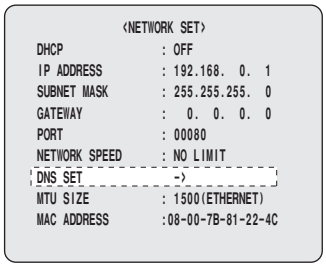



<NETWORK SET>
DHCP : OFF
IP ADDRESS : 192.168. 0. 1
SUBNET MASK : 255.255.255. 0
GATEWAY : 0. 0. 0. 0
PORT 00080
NETWORK SPEED NO LIMIT
DNS SET ->
MTU SIZE : 1500(ETHERNET)

11 Turn the jog dial to select the “NETWORK SPEED” setting and then turn the shuttle dial clockwise.

The cursor moves to “DNS SET”.



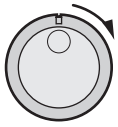

<NETWORK SET>
DHCP : OFF
IP ADDRESS : 192.168. 0. 1
SUBNET MASK : 255.255.255. 0
GATEWAY : 0. 0. 0. 0
PORT : 00080
NETWORK SPEED : NO LIMIT
DNS SET ->
MTU SIZE : 1500(ETHERNET)
MAC ADDRESS :08-00-7B-81-22-4C

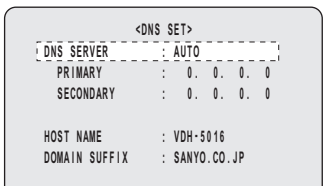
[Settings] (◆ indicates default setting)

Setting	Description	
◆NO LIMIT	Network speed	No limit
1024KBPS	Network speed	Up to 1024KBPS
512KBPS	Network speed	Up to 512KBPS
256KBPS	Network speed	Up to 256KBPS
128KBPS	Network speed	Up to 128KBPS
64KBPS	Network speed	Up to 64KBPS

12 Turn the shuttle dial clockwise.

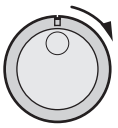
The <DNS SET> screen is displayed.

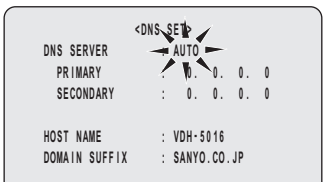




13 Turn the shuttle dial clockwise.

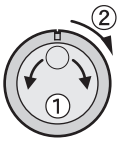
When “DHCP” is set to “ON”, “AUTO” flashes.
When “DHCP” is set to “OFF”, the setting is fixed to "MANUAL".

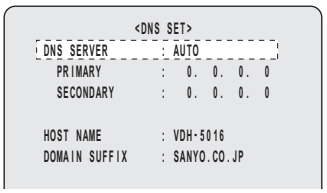




14 Turn the jog dial to select “AUTO” or “MANUAL” and then turn the shuttle dial clockwise.

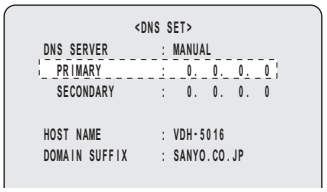
When “AUTO” is selected, proceed to step 16.
When “MANUAL” is selected, the cursor moves to “PRIMARY”.





15 If “DNS SERVER” is set to “MANUAL”, select the “PRIMARY” and “SECONDARY” settings.

Use the same procedure for setting “IP ADDRESS” to set the primary and secondary settings.

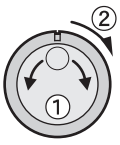


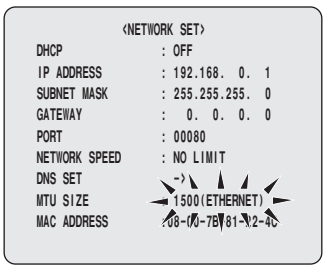
16 Turn the shuttle dial counter-clockwise.

The display returns to the <NETWORK SET> screen.

17 Turn the jog dial to select the “MTU SIZE” setting and then turn the shuttle dial clockwise.

“1500 (ETHERNET)” flashes.




<NETWORK SET>
DHCP : OFF
IP ADDRESS : 192.168. 0. 1
SUBNET MASK : 255.255.255. 0
GATEWAY : 0. 0. 0. 0
PORT : 00080
NETWORK SPEED : NO LIMIT
DNS SET ->
MTU SIZE 1500(ETHERNET)
MAC ADDRESS :08-00-7B-81-22-4C

18 Turn the jog dial to select the “MTU SIZE” setting and then turn the shuttle dial clockwise.

[Settings] (◆ indicates default setting)

◆1500 (ETHERNET), 1492 (ADSL-1), 1454 (ADSL-2), 1300 (VPN), 576

CAUTION

- The system reboots automatically when the settings for “MTU SIZE” are changed.

19 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

EXIT/OSD

NOTE

- “HOST NAME” and “DOMAIN SUFFIX” cannot be set on the digital video recorder. Set these on a PC connected to the network. (→P.199)

Making network control settings

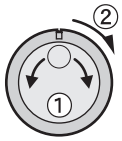
1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

MENU

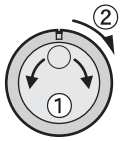
2 Turn the jog dial to select “3.GENERAL SET” and then turn the shuttle dial clockwise.

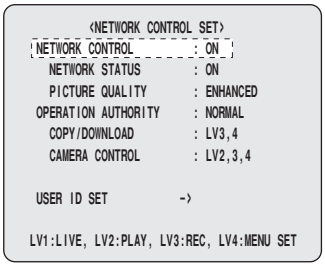
The <GENERAL SET> screen is displayed.



3 Turn the jog dial to select “7.NETWORK CONTROL SET” and then turn the shuttle dial clockwise.

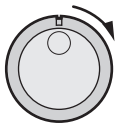
The <NETWORK CONTROL SET> screen is displayed.

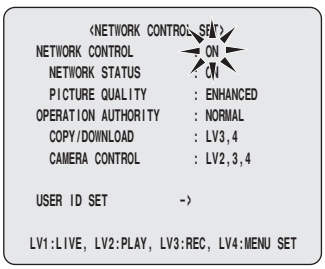




4 Turn the shuttle dial clockwise.

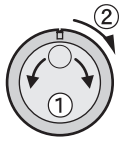
“ON” flashes for “NETWORK CONTROL”.

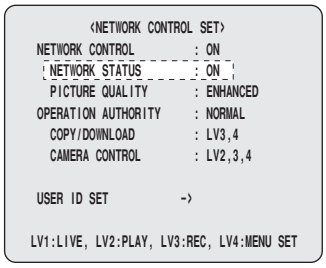




5 Turn the jog dial to select “ON” or “OFF” and then turn the shuttle dial clockwise.

The cursor moves to “NETWORK STATUS”.



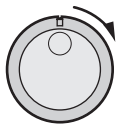


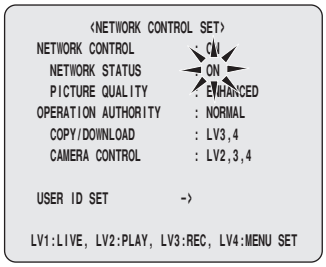
[Settings] (◆ indicates default setting)

Setting	Description
◆ON	The digital video recorder can be controlled via a network.
OFF	The digital video recorder cannot be controlled via a network.

6 Turn the shuttle dial clockwise.

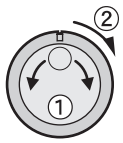
“ON” flashes for “NETWORK STATUS”.

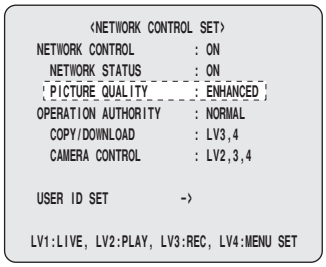




7 Turn the jog dial to select “ON” or “OFF” and then turn the shuttle dial clockwise.

The cursor moves to “PICTURE QUALITY”.



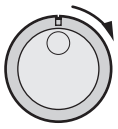


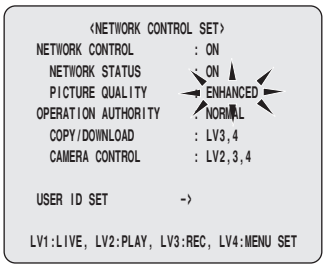
[Settings] (◆ indicates default setting)

Setting	Description
◆ON	During network connection, the message “NETWORK CONTROL” is displayed on the monitor connected to the digital video recorder.
OFF	The message “NETWORK CONTROL” is not displayed on the monitor connected to the digital video recorder even during network connection.

8 Turn the shuttle dial clockwise.

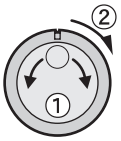
“ENHANCED” flashes.

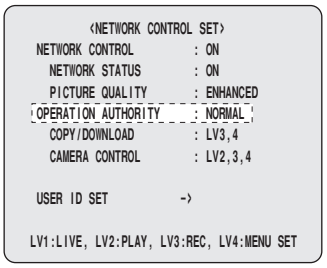




9 Turn the jog dial to select a picture quality to be used during network transmission, and then turn the shuttle dial clockwise.

The cursor moves to “OPERATION AUTHORITY”.





[Settings] (◆ indicates default setting)

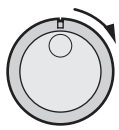
Setting	Description
BASIC (BA)	Basic
NORMAL (NO)	Normal
◆ENHANCED (EN)	Enhanced
FINE (FI)	Fine
SUPER FINE (SF)	Super Fine

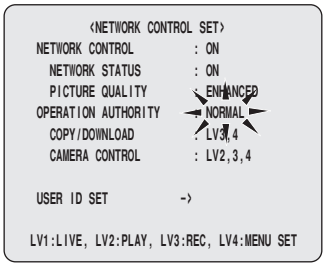
CAUTION

- You can specify the picture quality of live video transmitted through network.
  If the recording rate for normal recording is set to “100 (FPS)”, however, the digital video recorder transmits video in normal quality while recording is in progress.

10 Turn the shuttle dial clockwise.

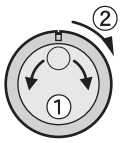
“NORMAL” flashes.

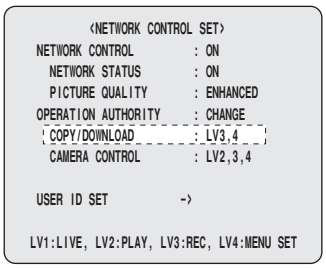




11 Turn the jog dial to select “NORMAL” or “CHANGE” and then turn the shuttle dial clockwise.

The cursor moves to “COPY/DOWNLOAD”.
If no changes are to be made to user privileges, select “NORMAL” and go to step 14.



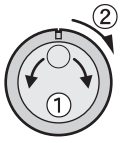


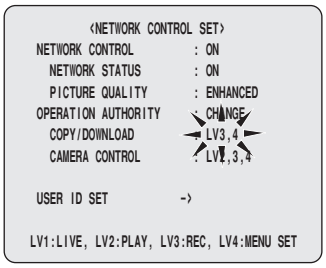
[Settings] (◆ indicates default setting)

Setting	Description
◆NORMAL	User privileges remain at the default setting.
CHANGE	Changes live image downloading privileges and camera control privileges.

12 If “OPERATION AUTHORITY” is set to “CHANGE”, turn the jog dial to select “COPY/DOWNLOAD” and then turn the shuttle dial clockwise.

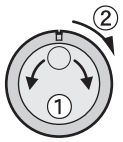
“LV3,4” flashes for “COPY/DOWNLOAD”.

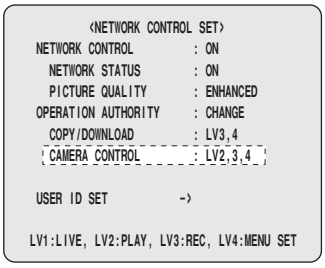




13 Turn the jog dial to select copy or download level and then turn the shuttle dial clockwise.

Selects the level that can perform the following operations for network connection. (→P.125)
Copy playback image to archive area (→P.180)
Download playback image to computer (→P.181)
The cursor moves to “CAMERA CONTROL”.



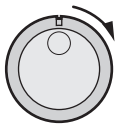


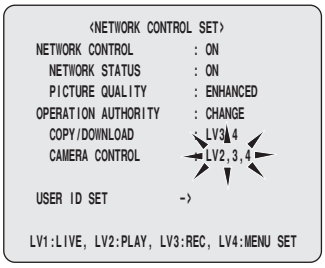
[Settings] (◆ indicates default setting)

Setting	Description
◆LV3, 4	Allows users at Level 3 or higher to copy and download images.
LV4	Allows users at Level 4 to copy and download images.

14 Turn the shuttle dial clockwise.

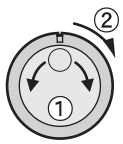
“LV2,3,4” flashes for “CAMERA CONTROL”.

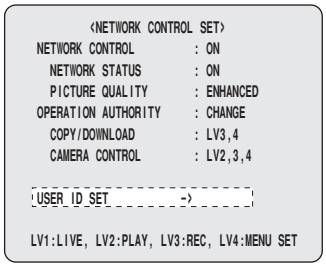




15 Turn the jog dial to select the camera control level and then turn the shuttle dial clockwise.

Select a level to control cameras from the digital video recorder. (→P.117)





[Settings] (◆ indicates default setting)

Setting	Description
◆LV2, 3, 4	Allows users at Level 2 or higher to control cameras from the digital video recorder.
LV3, 4	Allows users at Level 3 or higher to control cameras from the digital video recorder.
LV4	Allows users at Level 4 to control cameras from the digital video recorder.

16 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

EXIT/OSD

Setting user ID

Set a user ID and password to restrict operation of the digital video recorder directly or through the network.

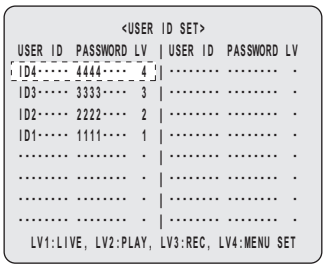
■ User levels and privileges

Select from the following four user levels.

Operation privilege \ Level	LV1	LV2	LV3	LV4
Monitoring	○*1	○	○	○
Playback/ searching	×	○	○	○
Recording	×	×	○	○
Menu operation	×	×	×	○
Monitor control	×	×	×	×
Concurrent connection restriction	16 users*2	3 users	1 user at LV3 or LV4	
		3 users at LV2, LV3 and LV4		
	16 users including a user for the DVR (1 user for the DVR)			

*1 Masked video cannot be monitored.
*2 However, the maximum number may not be possible depending on the network conditions and the number of screens displayed.

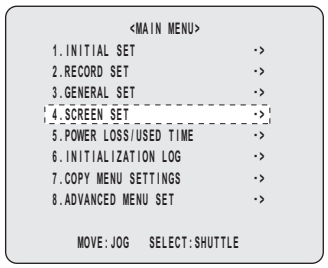
Setting user

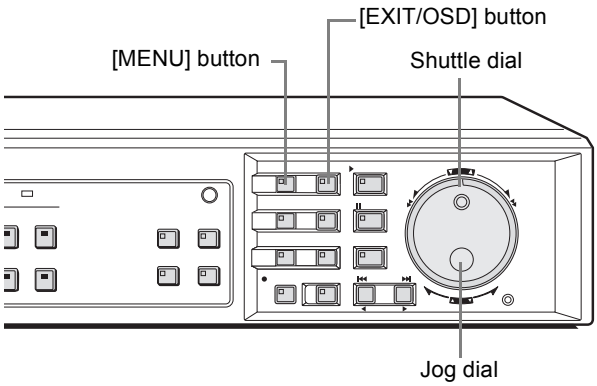


Use the following procedure to set the user ID, password and level.
The user ID must be between one and eight alphanumeric characters, and the password between four and eight alphanumeric characters.
Characters that can be entered: 0 to 9, A to Z

The operation is the same as “Setting user” (→P.117) from “Security lock settings”.
Change “NETWORK CONTROL” user ID, password, and level (settings described on this page) to change the values in the “USER ID SET” screen of “SECURITY LOCK SETTINGS”.

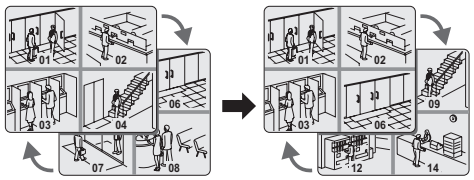
Main Menu





Setting quad and multi 9/16 display

Use the following procedure to change the display positions for cameras in quad and multi 9/16 screens. Different positions can be set for both the main monitor and monitor 2. On the DSR-5709P, display positions can be changed on quad and multi 9 screens.



CAUTION

- Each camera can only be displayed in one position on any screen.

Setting multiple screen positions

Example: Displaying Camera No. 05 in quad position 01
On the DSR-5709P, set for cameras No. 01 through 09.

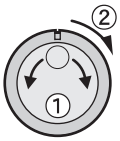
1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

MENU

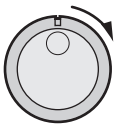
2 Turn the jog dial to select “4.SCREEN SET” and then turn the shuttle dial clockwise.

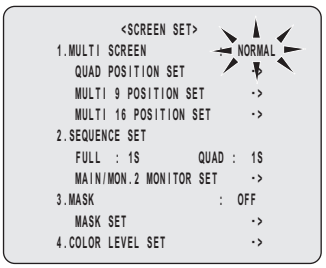
The <SCREEN SET> screen is displayed.



3 Turn the shuttle dial clockwise.

“NORMAL” flashes for “1.MULTI SCREEN”.



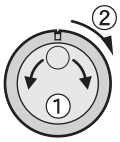


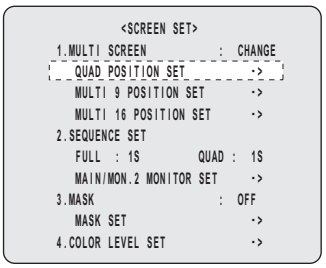
4 Turn the jog dial to select “CHANGE” and then turn the shuttle dial clockwise.

The cursor moves to “QUAD POSITION SET”.

[Settings] (◆ indicates default setting)

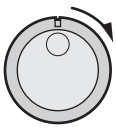
Setting	Description
◆NORMAL	The display sequence for cameras does not change.
CHANGE	The display sequence for cameras changes.

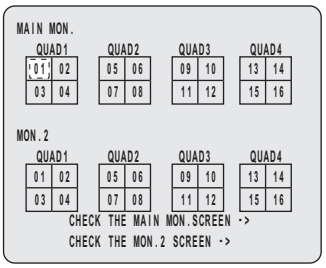




5 Turn the shuttle dial clockwise.

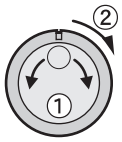
The <QUAD POSITION SET> screen is displayed.

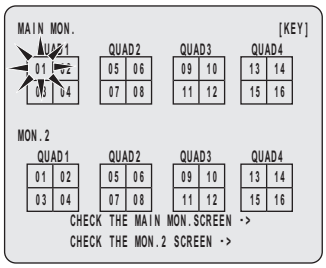



MAIN MON.
QUAD1 QUAD2 QUAD3 QUAD4
01 02 05 06 09 10 13 14
03 04 07 08 11 12 15 16
MON.2
QUAD1 QUAD2 QUAD3 QUAD4
01 02 05 06 09 10 13 14
03 04 07 08 11 12 15 16
CHECK THE MAIN MON.SCREEN ->
CHECK THE MON.2 SCREEN ->
01

6 Turn the jog dial to select “01” for “QUAD1” and then turn the shuttle dial clockwise.

“01” flashes for “QUAD1”.




MAIN MON.
[KEY]
QUAD1
01 02
03 04
QUAD2
05 06
07 08
QUAD3
09 10
11 12
QUAD4
13 14
15 16
MON.2
QUAD1
01 02
03 04
QUAD2
05 06
07 08
QUAD3
09 10
11 12
QUAD4
13 14
15 16
CHECK THE MAIN MON.SCREEN ->
CHECK THE MON.2 SCREEN ->

Setting the interval and monitors for automatic screen selection

Use the following procedure to scroll through video from all cameras at a specified interval.
The interval for automatic selection can only be set for full screen and quad display.

Example: Automatic switching of the full-screen display every 5 seconds.

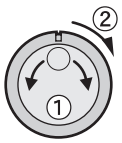
1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

MENU

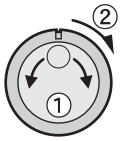
2 Turn the jog dial to select “4.SCREEN SET” and then turn the shuttle dial clockwise.

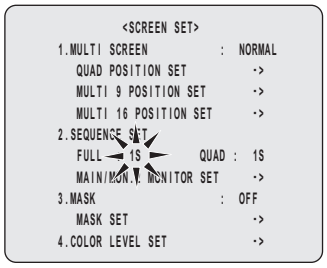
The <SCREEN SET> screen is displayed.



3 Turn the jog dial to select “FULL” for “2.SEQUENCE SET” and then turn the shuttle dial clockwise.

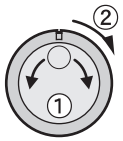
“1S” flashes for “FULL”.

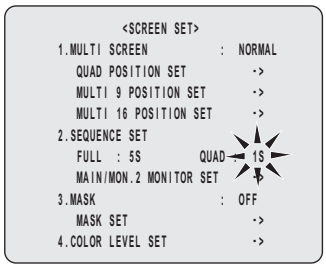




4 Turn the jog dial to set the interval to “5S” and then turn the shuttle dial clockwise.

Automatic selection is set to an interval of 5 seconds.





5 Use the same operation to set the switching interval for quad screen display.

“INDIV.” cannot be selected for “QUAD”.

NOTE

- The interval applies to all cameras on the main monitor and monitor 2. To set the interval for each camera when displaying video at full screen, select “INDIV.” in step 4 and then go to “MAIN/MON.2 MONITOR SET”.
- The interval can be set anywhere between 1 and 30 seconds.

6 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

EXIT/OSD

Setting the time period to switch the display on the main monitor and monitor 2

Example: Setting the display interval of each camera’s video for the main monitor and monitor 2.

1 Make timer settings for “TIME PERIOD A” and “TIME PERIOD B” on the <TIME PERIOD SET> screen. (→P.74)

Specify “TIME PERIOD A” and “TIME PERIOD B”.

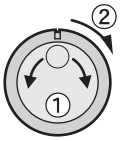
2 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

MENU

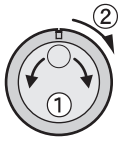
3 Turn the jog dial to select “4.SCREEN SET” and then turn the shuttle dial clockwise.

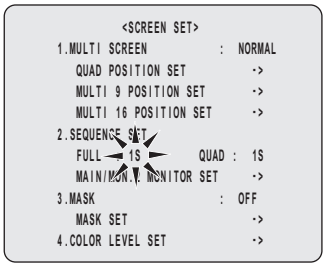
The <SCREEN SET> screen is displayed.



4 Turn the jog dial to select “FULL” for “2.SEQUENCE SET” and then turn the shuttle dial clockwise.

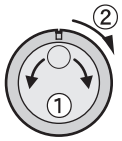
“1S” flashes for “FULL”.

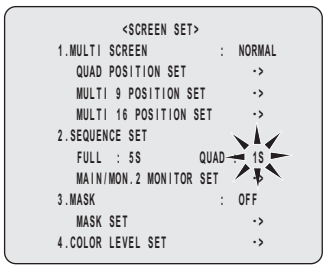



<SCREEN SET>
1.MULTI SCREEN : NORMAL
QUAD POSITION SET ->
MULTI 9 POSITION SET ->
MULTI 16 POSITION SET ->
2.SEQUENCE SET
FULL : 1S QUAD : 1S
MAIN/MON.2 MONITOR SET ->
3.MASK : OFF
MASK SET ->
4.COLOR LEVEL SET ->

5 Turn the jog dial to set the interval to “INDIV.” and then turn the shuttle dial clockwise.

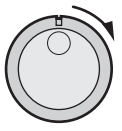
Set the main monitor and monitor 2 display period for each camera.

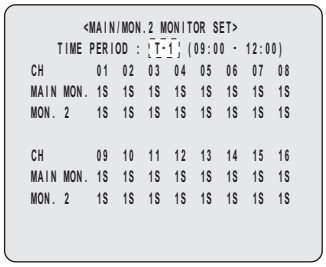



<SCREEN SET>
1.MULTI SCREEN : NORMAL
QUAD POSITION SET ->
MULTI 9 POSITION SET ->
MULTI 16 POSITION SET ->
2.SEQUENCE SET
FULL : 5S QUAD : 1S
MAIN/MON.2 MONITOR SET ->
3.MASK : OFF
MASK SET ->
4.COLOR LEVEL SET ->

6 Turn the shuttle dial to select “MAIN/MON. 2 MONITOR SET” and then turn the shuttle dial clockwise.

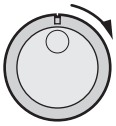
The <MAIN/MON.2 MONITOR SET> screen is displayed.

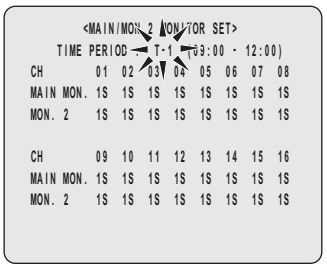




7 Turn the shuttle dial clockwise.

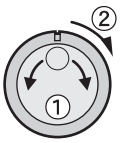
“T-1” flash for “TIME PERIOD”.

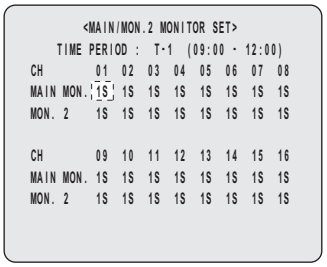




8 Turn the jog dial to select the time period and then turn the shuttle dial clockwise.

The cursor moves to “1S” for “01” and “MAIN MON.”.





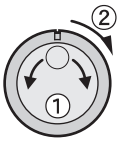
[Settings] (◆ indicates default setting)

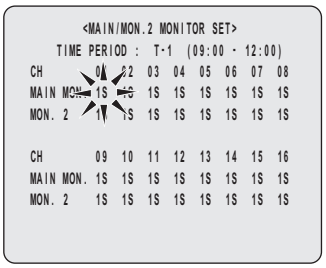
Setting	Description
◆ T-1	Sets time period T-1.
T-2	Sets time period T-2.
T-3	Sets time period T-3.
T-4	Sets time period T-4.

If the time period is set to “ALL DAY LONG”, the display is fixed to “T-1 (00:00-24:00)”.

9 Turn the jog dial to select the channel to be changed for “MAIN MON.” or “MON.2” and then turn the shuttle dial clockwise.

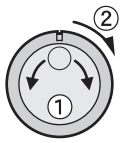
“1S” flashes.
On the DSR-5709P, set for cameras No. 01 through 09.

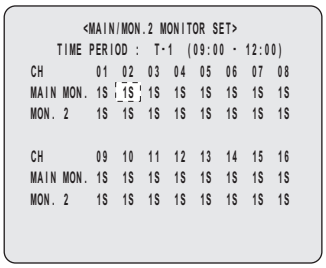




10 Turn the jog dial to select “1S” to “30S” or “OFF” and then turn the shuttle dial clockwise.

After confirming this setting, the cursor moves one position to the right.





[Settings] (◆ indicates default setting)

Setting	Description
OFF	Channel not displayed.
◆ 1S - 30S	Switching interval (seconds)

11 Use the same procedure to set other channels.

12 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

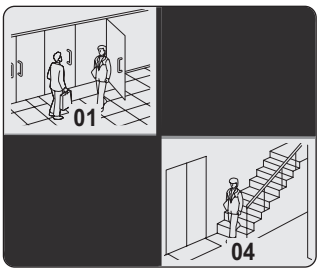
EXIT/OSD

NOTE

- When setting a number of time periods together, use the jog dial to move the cursor to the next period after completing step 11, and repeat steps 9 through 10.
- The time period for “T-1” through “T-4” changes to that of “TIME PERIOD A” or “TIME PERIOD B” on the <TIME PERIOD SET> screen.

Setting masks

Use the following procedure to set video from a specific camera (including playback video) to be masked by a gray pattern when it is not to be shown on a monitor screen.



Example: Preventing the display of specific camera video at a set period (as indicated by TIME PERIOD A and TIME PERIOD B).

1 Make timer settings for “TIME PERIOD A” and “TIME PERIOD B” on the <TIME PERIOD SET> screen. (→P.74)

Specify “TIME PERIOD A” and “TIME PERIOD B”.

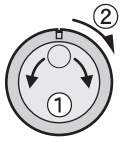
2 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

MENU

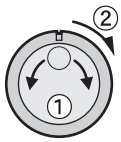
3 Turn the jog dial to select “4.SCREEN SET” and then turn the shuttle dial clockwise.

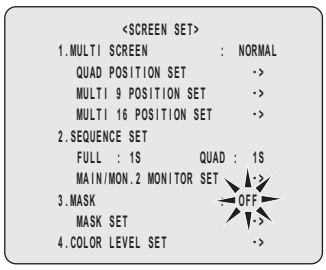
The <SCREEN SET> screen is displayed.



4 Turn the jog dial to select “MASK” and then turn the shuttle dial clockwise.

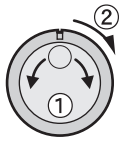
“OFF” flashes.

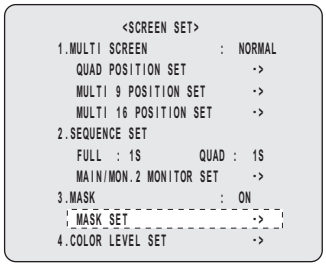




5 Turn the jog dial to select “ON” and then turn the shuttle dial clockwise.

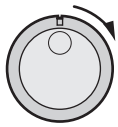
The cursor moves to “MASK SET”.

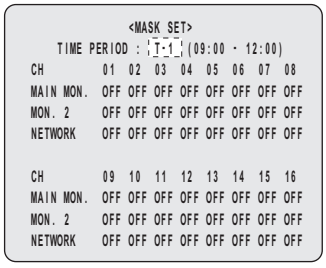



<SCREEN SET>
1.MULTI SCREEN : NORMAL
QUAD POSITION SET ->
MULTI 9 POSITION SET ->
MULTI 16 POSITION SET ->
2.SEQUENCE SET
FULL : 1S QUAD : 1S
MAIN/MON.2 MONITOR SET ->
3.MASK : ON
MASK SET ->
4.COLOR LEVEL SET ->

6 Turn the shuttle dial clockwise.

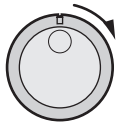
The <MASK SET> screen is displayed.

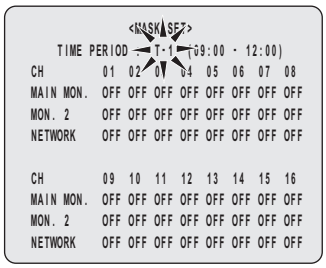



<MASK SET>
TIME PERIOD : T-1 (09:00 - 12:00)
CH 01 02 03 04 05 06 07 08
MAIN MON. OFF OFF OFF OFF OFF OFF OFF OFF
MON. 2 OFF OFF OFF OFF OFF OFF OFF OFF
NETWORK OFF OFF OFF OFF OFF OFF OFF OFF
CH 09 10 11 12 13 14 15 16
MAIN MON. OFF OFF OFF OFF OFF OFF OFF OFF
MON. 2 OFF OFF OFF OFF OFF OFF OFF OFF
NETWORK OFF OFF OFF OFF OFF OFF OFF OFF

7 Turn the shuttle dial clockwise.

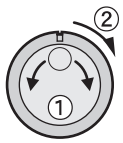
“T-1” flashes for “TIME PERIOD”.

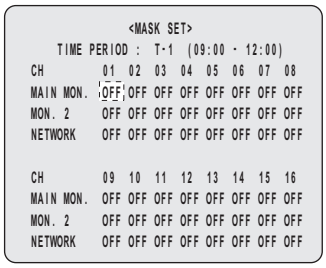



<MASK SET>
TIME PERIOD : T-1 (09:00 - 12:00)
CH 01 02 03 04 05 06 07 08
MAIN MON. OFF OFF OFF OFF OFF OFF OFF OFF
MON. 2 OFF OFF OFF OFF OFF OFF OFF OFF
NETWORK OFF OFF OFF OFF OFF OFF OFF OFF
CH 09 10 11 12 13 14 15 16
MAIN MON. OFF OFF OFF OFF OFF OFF OFF OFF
MON. 2 OFF OFF OFF OFF OFF OFF OFF OFF
NETWORK OFF OFF OFF OFF OFF OFF OFF OFF

8 Turn the jog dial to select the time period and then turn the shuttle dial clockwise.

After setting the period, the cursor moves to “OFF” for channel “01” and “MAIN MON.”.




<MASK SET>
TIME PERIOD : T-1 (09:00 - 12:00)
CH 01 02 03 04 05 06 07 08
MAIN MON. OFF OFF OFF OFF OFF OFF OFF OFF
MON. 2 OFF OFF OFF OFF OFF OFF OFF OFF
NETWORK OFF OFF OFF OFF OFF OFF OFF OFF
CH 09 10 11 12 13 14 15 16
MAIN MON. OFF OFF OFF OFF OFF OFF OFF OFF
MON. 2 OFF OFF OFF OFF OFF OFF OFF OFF
NETWORK OFF OFF OFF OFF OFF OFF OFF OFF

[Settings] (◆ indicates default setting)

Setting	Description
◆ T-1	Sets time period T-1.
T-2	Sets time period T-2.
T-3	Sets time period T-3.
T-4	Sets time period T-4.

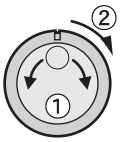
If the time period is set to “ALL DAY LONG”, the display is fixed to “T-1 (00:00-24:00)”.

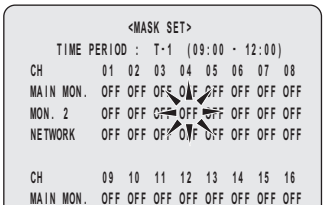
NOTE

- Each camera can be set individually for the main monitor, monitor 2 and network video.

9 Turn the jog dial to select the channel to be changed and then turn the shuttle dial clockwise.

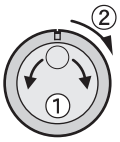
“OFF” flashes.
On the DSR-5709P, set for cameras No. 01 through 09.

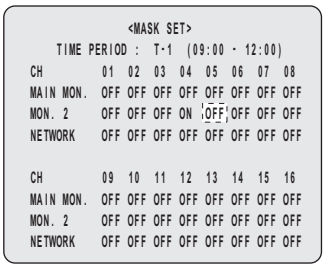



<MASK SET>
TIME PERIOD : T-1 (09:00 - 12:00)
CH 01 02 03 04 05 06 07 08
MAIN MON. OFF OFF OFF OFF OFF OFF OFF OFF
MON. 2 OFF OFF OFF OFF OFF OFF OFF OFF
NETWORK OFF OFF OFF OFF OFF OFF OFF OFF
CH 09 10 11 12 13 14 15 16
MAIN MON. OFF OFF OFF OFF OFF OFF OFF OFF

10 Turn the jog dial to select “ON” or “OFF” and then turn the shuttle dial clockwise.

After confirming this setting, the cursor moves one position to the right.




<MASK SET>
TIME PERIOD : T-1 (09:00 - 12:00)
CH 01 02 03 04 05 06 07 08
MAIN MON. OFF OFF OFF OFF OFF OFF OFF OFF
MON. 2 OFF OFF OFF ON OFF OFF OFF OFF
NETWORK OFF OFF OFF OFF OFF OFF OFF OFF
CH 09 10 11 12 13 14 15 16
MAIN MON. OFF OFF OFF OFF OFF OFF OFF OFF
MON. 2 OFF OFF OFF OFF OFF OFF OFF OFF
NETWORK OFF OFF OFF OFF OFF OFF OFF OFF

[Settings] (◆ indicates default setting)

Setting	Description
◆OFF	Masking is disabled.
ON	Masking is enabled.

CAUTION

- When set to “ON”, the playback video is also masked. (As a result, playback video is not visible.)
  To play back video, repeat step 5 and set masking to “OFF”.

11 Use the same procedure to set other channels.

12 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

EXIT/OSD

NOTE

- When setting a number of time periods together, after completing step 10, use the jog dial to select the next period and then repeat the process from step 6.
- The time period for “T-1” through “T-4” changes to that of “TIME PERIOD A” or “TIME PERIOD B” on the <TIME PERIOD SET> screen.
- Network mask settings are valid only for the user connecting to the network with ID1. Users connecting with ID2, ID3 and ID4 are able to display all channels.

Setting the color level

Use the following procedure to adjust the color of video displayed on monitors.

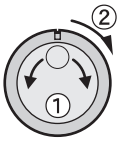
1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

MENU

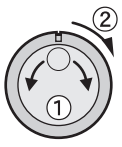
2 Turn the jog dial to select “4.SCREEN SET” and then turn the shuttle dial clockwise.

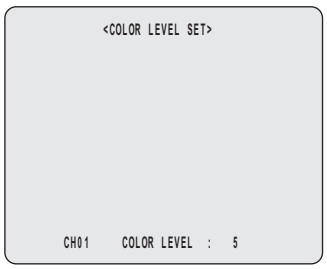
The <SCREEN SET> screen is displayed.



3 Turn the jog dial to select “4.COLOR LEVEL SET” and then turn the shuttle dial clockwise.

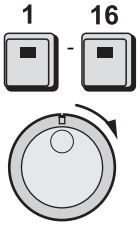
The <COLOR LEVEL SET> screen is displayed.

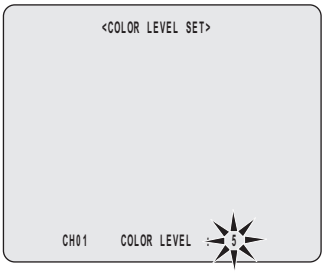




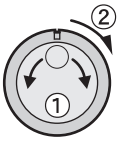
4 Press the [CAMERA SELECT] button for the camera whose color level is to be set and then turn the shuttle dial clockwise.

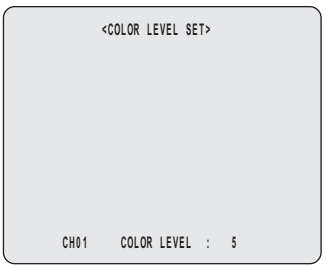
“5” flashes.





5 Turn the jog dial to select the “COLOR LEVEL” setting and then turn the shuttle dial clockwise.





[Settings] (The default setting is “5”)

Setting	Description
1 - 10	Manual adjustment to one of ten levels. Light (1) to Dark (10) Display is automatically in color when set to 10.

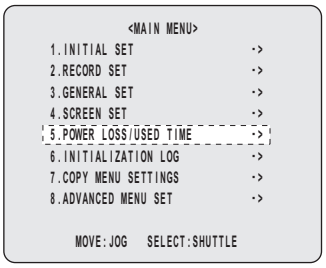
6 Press the [EXIT/OSD] button.

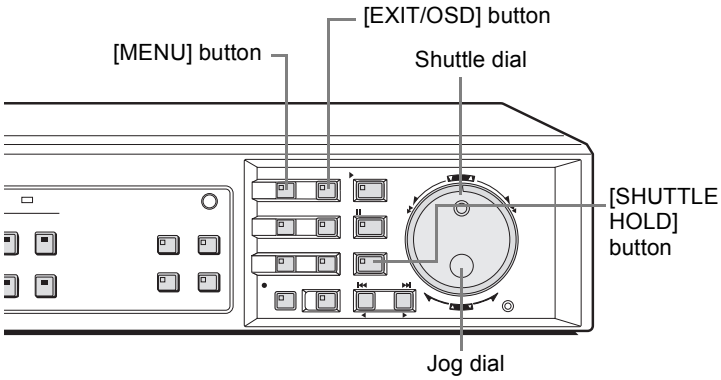
The setting is completed and the display returns to the normal screen.

EXIT/OSD

5 POWER LOSS/USED TIME

Main Menu





Use the following procedure to check the date and time of power losses, the amount of hard disk operation time and the amount of power-on time.

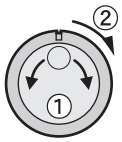
1 Press the [MENU] button.

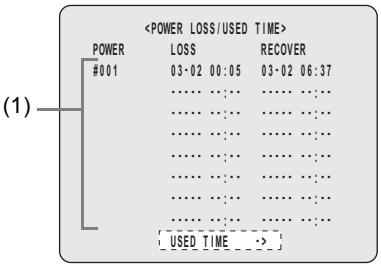
The MENU indicator lights up and the <MAIN MENU> is displayed.

MENU

2 Turn the jog dial to select “5.POWER LOSS/USED TIME” and then turn the shuttle dial clockwise.

The <POWER LOSS/USED TIME> screen is displayed.



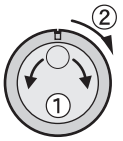


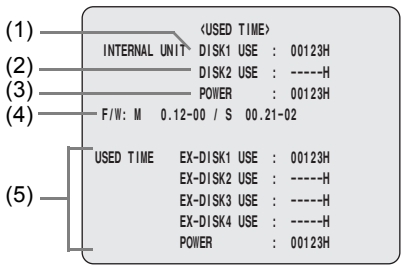
Check the date and time of power losses and the amount of hard disk operation time.

(1) LOSS/RECOVER
Displays information in order for the eight most recent power losses (i.e., the date and time of loss and recovery).
The number on the left is the number of power losses. (Example: #001)
For all numbers above 999, the number “999” is displayed.

3 Select “USED TIME” and then turn the shuttle dial clockwise.

The <USED TIME> screen is displayed.





(1) DISK 1 USE
The hard disk 1 power usage duration is displayed.

(2) DISK 2 USE
The hard disk 2 power usage duration is displayed. If there is only one hard disk, “------” is displayed.

(3) POWER
Displays the total amount of power-on time for the digital video recorder.

(4) F/W
Displays the firmware version.

(5) EX-DISK1/EX-DISK2/EX-DISK3/EX-DISK4 USE, POWER
Total usage time is shown for each hard disk when expanded.

NOTE

- Press the [MENU RESET] button to clear the power loss information and number of power losses.

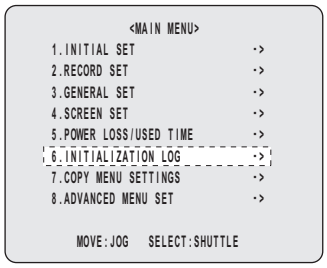
4 Press the [EXIT/OSD] button.

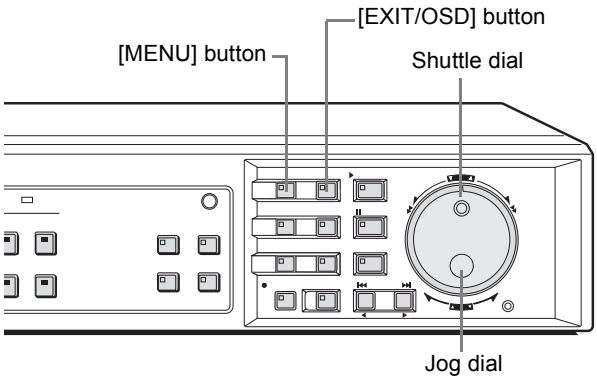
The display returns to the normal screen.

EXIT/OSD

6 INITIALIZATION LOG

Main Menu





Use the following procedure to display the eight most recent entries in the initialization and re-recording log for the hard disk.

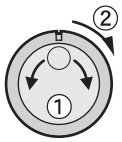
1 Press the [MENU] button.

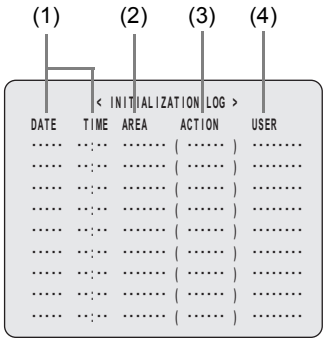
The MENU indicator lights up and the <MAIN MENU> is displayed.

MENU

2 Turn the jog dial to select "6.INITIALIZATION LOG" and then turn the shuttle dial clockwise.

The <INITIALIZATION LOG> screen is displayed.





(1) DATE/TIME
Displays the time and date of initialization and area resetting.

(2) AREA
Displays the recording of the target area of initialization or area resetting.
- ALL
- RECORD
- ARCHIVE

(3) ACTION
Displays whether initialization (→P.122) or AREA FULL RESET (→P.84) was selected.
- INITI.
- RESET

(4) USER ID
Displays the user ID of the user that performed initialization and area resetting.

CAUTION

- "INITI." is displayed when recording areas are changed.

3 Press the [EXIT/OSD] button.

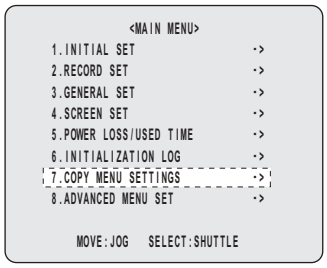
The display returns to the normal screen.

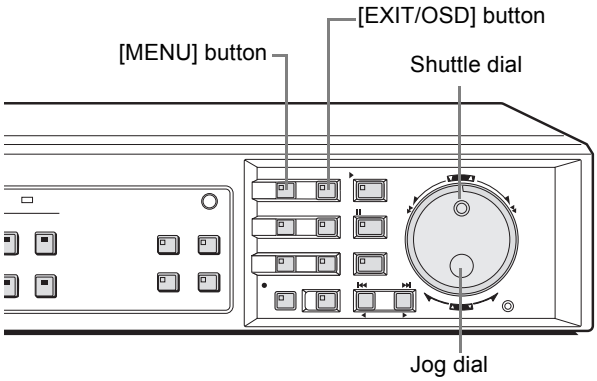
EXIT/OSD

SETTINGS

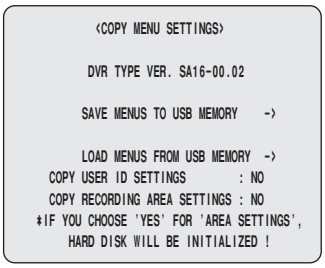
7 COPY MENU SETTINGS

Main Menu





Use the following procedure to save menu settings or user ID settings on a USB memory or to load settings from a USB memory back onto the digital video recorder. These functions make it easy to share the same settings on a number of different digital video recorders.
Also connect to a network via a PC and load from or save to the hard disk.


<COPY MENU SETTINGS>
DVR TYPE VER. SA16-00.02
SAVE MENUS TO USB MEMORY ->
LOAD MENUS FROM USB MEMORY ->
COPY USER ID SETTINGS : NO
COPY RECORDING AREA SETTINGS : NO
*IF YOU CHOOSE 'YES' FOR 'AREA SETTINGS',
HARD DISK WILL BE INITIALIZED !

Saving menu settings

Use the following procedure to save menu settings to a USB memory.
Insert a USB memory into a USB terminal.

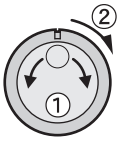
1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

MENU

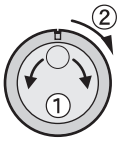
2 Turn the jog dial to select “7.COPY MENU SETTINGS” and then turn the shuttle dial clockwise.

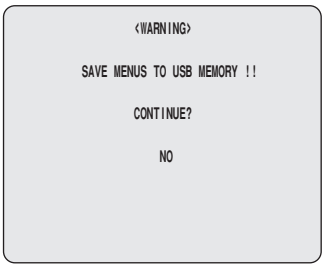
The <COPY MENU SETTINGS> screen is displayed.



3 Turn the jog dial to select “SAVE MENUS TO USB MEMORY” and then turn the shuttle dial clockwise.

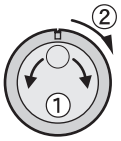
The <WARNING> screen is displayed.





4 Turn the jog dial to select “YES” and then turn the shuttle dial clockwise.

The saving process begins.



When this is completed, “SAVING FINISHED!” is displayed. A file named “MENUCOPY.BIN” is created in the USB memory directory.

Loading menu settings

Use the following procedure to load menu settings saved on a USB memory to the digital video recorder.

CAUTION

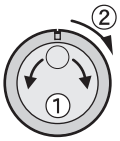
- When loading a menu setting file to the recorder, specify whether recording area settings are to be copied. Normally, “COPY RECORDING AREA SETTINGS” is set to “NO”. If this is set to “YES”, the hard disk is initialized as part of the loading process and all recorded data is lost.
- Only files from the same DVR TYPE VER No. model can be loaded. When loading of a file that cannot be loaded is attempted, an error message is displayed.

1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

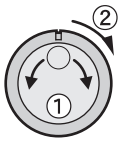
2 Turn the jog dial to select “7.COPY MENU SETTINGS” and then turn the shuttle dial clockwise.

The <COPY MENU SETTINGS> screen is displayed.



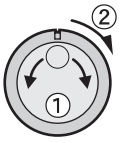
3 Turn the jog dial to select “COPY USER ID SETTINGS” and then turn the shuttle dial clockwise.

“NO” flashes.



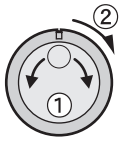
‹COPY MENU SETTINGS›
DVR TYPE VER. SA16-00.02
SAVE MENUS TO USB MEMORY ->
LOAD MENUS FROM USB MEMORY ->
COPY USER ID SETTINGS : NO
COPY RECORDING AREA SETTINGS : NO
*IF YOU CHOOSE ^YES^ FOR ^AREA SETTINGS^,
HARD DISK WILL BE INITIALIZED !

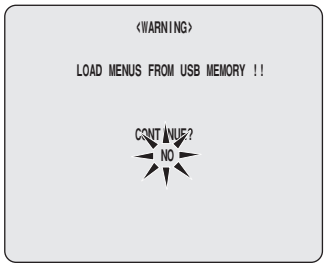
4 Turn the jog dial to select “NO” or “YES” and then turn the shuttle dial clockwise.



5 Turn the jog dial to select “LOAD MENUS FROM USB MEMORY” and then turn the shuttle dial clockwise.

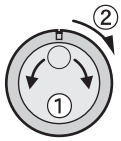
The <WARNING> screen is displayed.





6 Turn the jog dial to select “YES” and then turn the shuttle dial clockwise.

The loading process starts.



When the load is completed, “SYSTEM INITIALIZING” is displayed and the display returns to the camera video.

Copying the recording area settings

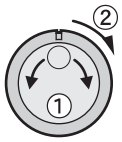
Use the following procedure to copy recording area settings.

1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

2 Turn the jog dial to select “7.COPY MENU SETTINGS” and then turn the shuttle dial clockwise.

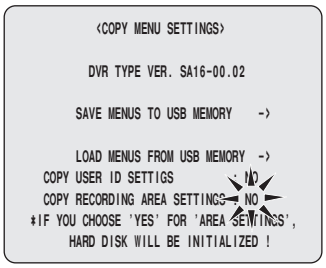
The <COPY MENU SETTINGS> screen is displayed.
The cursor is displayed on “SAVE MENUS TO USB MEMORY”.



‹COPY MENU SETTINGS›
DVR TYPE VER. SA16-00.02
SAVE MENUS TO USB MEMORY ->
LOAD MENUS FROM USB MEMORY ->
COPY USER ID SETTIGS : NO
COPY RECORDING AREA SETTINGS : NO
*IF YOU CHOOSE 'YES' FOR 'AREA SETTINGS',
HARD DISK WILL BE INITIALIZED !

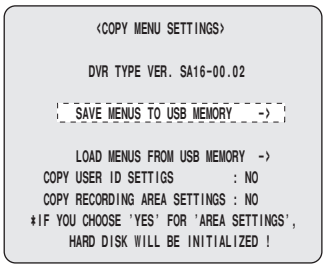
3 Turn the jog dial to select “COPY RECORDING AREA SETTINGS” and then turn the shuttle dial clockwise.

“NO” flashes.


‹COPY MENU SETTINGS›
DVR TYPE VER. SA16-00.02
SAVE MENUS TO USB MEMORY ->
LOAD MENUS FROM USB MEMORY ->
COPY USER ID SETTIGS : NO
COPY RECORDING AREA SETTINGS : NO
*IF YOU CHOOSE 'YES' FOR 'AREA SETTINGS',
HARD DISK WILL BE INITIALIZED !

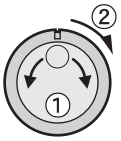
4 Turn the jog dial to select “YES” and then turn the shuttle dial clockwise.

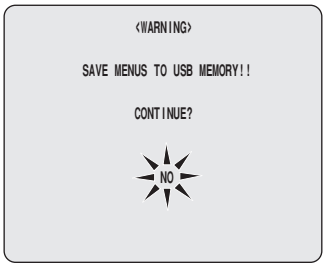
The cursor appears on “SAVE MENUS TO USB MEMORY”.


‹COPY MENU SETTINGS›
DVR TYPE VER. SA16-00.02
SAVE MENUS TO USB MEMORY ->
LOAD MENUS FROM USB MEMORY ->
COPY USER ID SETTIGS : NO
COPY RECORDING AREA SETTINGS : NO
*IF YOU CHOOSE 'YES' FOR 'AREA SETTINGS',
HARD DISK WILL BE INITIALIZED !

5 Turn the shuttle dial clockwise.

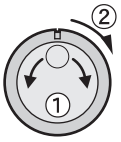
The <WARNING> screen is displayed.

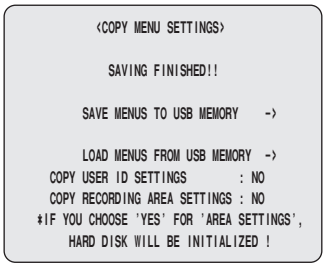




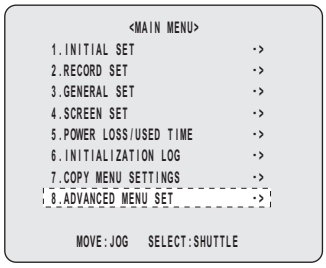
6 Turn the jog dial to select “YES” and then turn the shuttle dial clockwise.

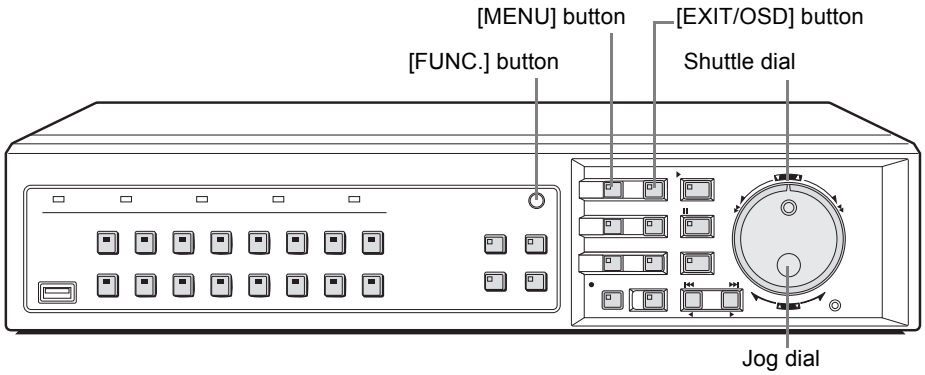
The copying process begins.
When copying is completed, the display returns to the previous screen.




‹COPY MENU SETTINGS›
SAVING FINISHED!!
SAVE MENUS TO USB MEMORY ->
LOAD MENUS FROM USB MEMORY ->
COPY USER ID SETTINGS : NO
COPY RECORDING AREA SETTINGS : NO
*IF YOU CHOOSE 'YES' FOR 'AREA SETTINGS',
HARD DISK WILL BE INITIALIZED !

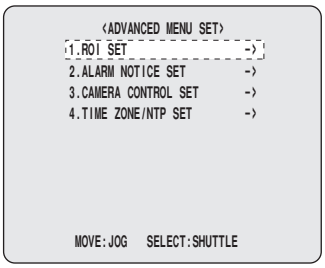
Main Menu





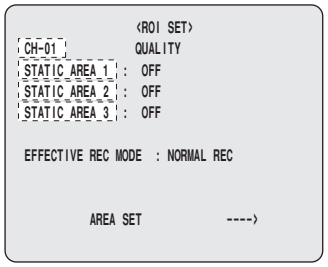
Configuration

The following settings can be made with <ADVANCED MENU SET>.



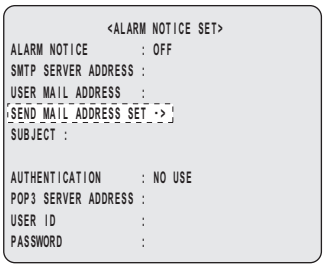
1. ROI SET (→P.145)

Set the Region of Interest (ROI) to enable recording, at different picture quality, only of areas preset on the monitor or areas where motion is detected. Areas where intruders are detected, for example, can be recorded at higher picture quality.



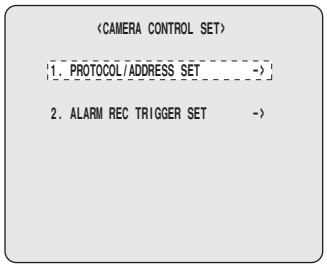
2. ALARM NOTICE SET (→P.149)

Receive notification by e-mail when an alarm event or device malfunction occurs.
This cannot be set from the digital video recorder. Set this on a PC connected to the network.



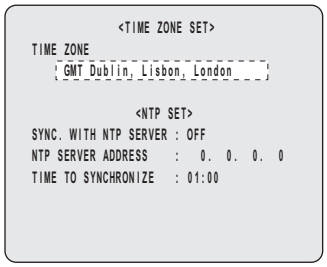
3. CAMERA CONTROL SET (→P.150)

Set camera control when cameras with remote operation capability are connected.



4. TIME ZONE/NTP SET (→P.154)

Use the Internet or an NTP server on a LAN to synchronize the time.



Setting ROI

Set the Region of Interest (ROI) to enable recording at different picture qualities, only of areas preset on the monitor. Enables recording at high picture qualities for areas where motion is detected.
This function allows you to raise the quality level for the preset ROI or lower the quality level for unnecessary areas without changing the image size each time.

Setting the ROI

There are three static areas in the ROI. The static areas are fixed and preset.
Perform the following settings.

- QUALITY: Set for each of the three static areas in the ROI.
- EFFECTIVE MODE: Set to perform normal recording or alarm recording.
- AREA SET: Set the location and size of each static area.

NOTE

- Refer to “Setting ROI area” (→P.147) for static area settings.

CAUTION

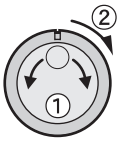
- If ROI settings overlap, the settings from the previous row are prioritized.

1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

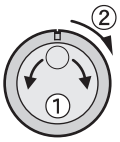
2 Turn the jog dial to select “8.ADVANCED MENU SET” and then turn the shuttle dial clockwise.

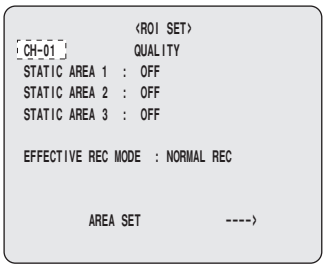
The <ADVANCED MENU SET> screen is displayed.



3 Turn the jog dial to select “1.ROI SET” and then turn the shuttle dial clockwise.

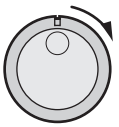
The <ROI SET> screen is displayed.

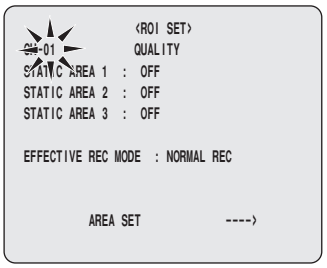




4 Turn the shuttle dial clockwise.

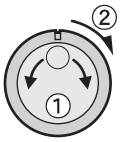
The camera number flashes.

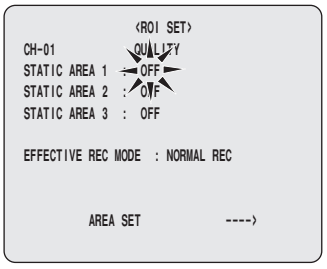




5 Turn the jog dial to select the camera number for the camera to set ROI for and turn the shuttle dial clockwise twice.

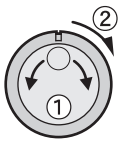
The cursor moves to “QUALITY” for “STATIC AREA 1”, and “OFF” flashes.

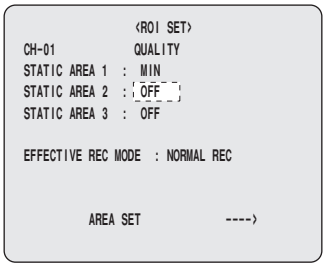




6 Turn the jog dial to select the "QUALITY" setting and then turn the shuttle dial clockwise.

The cursor moves to "STATIC AREA 2".

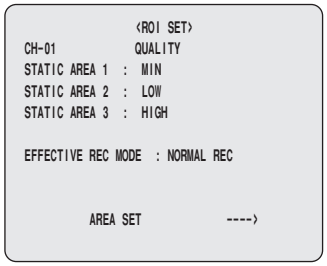




[Settings] (◆ indicates default setting)

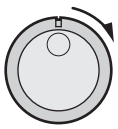
Setting	Description
MIN	Lowest quality
LOW	Low quality
◆OFF	Normal (Same picture quality as outside ROI area)
HIGH	Fine
MAX	Best quality

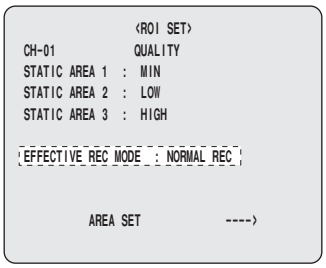
7 Use the same procedure to set the "QUALITY" settings in "STATIC AREA 2" and "STATIC AREA 3".



8 Turn the shuttle dial clockwise.

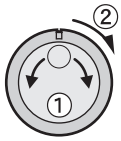
The cursor moves to "EFFECTIVE REC MODE".

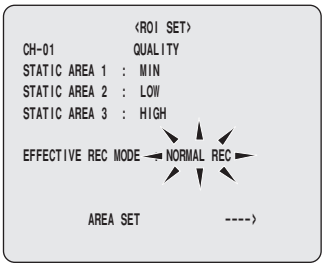




9 Turn the shuttle dial clockwise.

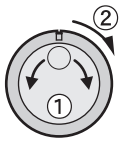
"NORMAL REC" flashes.

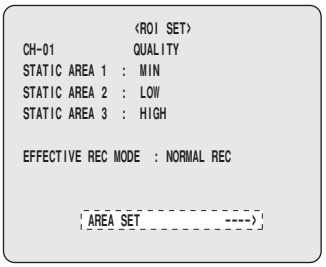




10 Turn the jog dial to select the "EFFECTIVE REC MODE" setting and then turn the shuttle dial clockwise.

The cursor moves to "AREA SET".



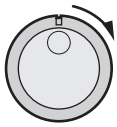


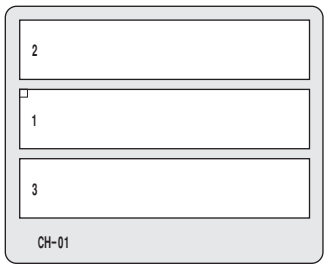
[Settings] (◆ indicates default setting)

Setting	Description
◆NORMAL REC	ROI is enabled during normal recording.
ALARM REC	ROI is enabled during alarm recording.
NORMAL/ ALARM	ROI is enabled during normal and alarm recording.

11 Turn the shuttle dial clockwise.

The <AREA SET> screen is displayed.





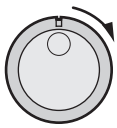
NOTE

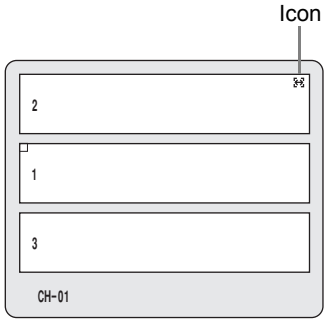
- When “QUALITY” are all set to “OFF”, the <AREA SET> screen is not displayed.
- The frame is not displayed for “STATIC AREA” numbers with “QUALITY” set to “OFF”.

Setting ROI area

12 Turn the shuttle dial clockwise.

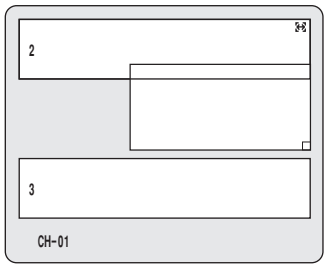
Area settings mode is activated and an icon appears in the upper right part of the screen.





13 Turn the jog dial to move the cursor (the orange ☐) to the upper left of the position where an area is to be set and then turn the shuttle dial clockwise.

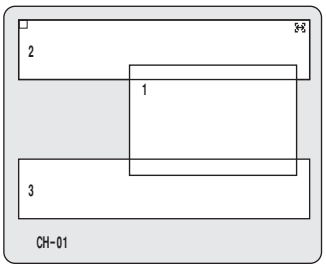
The cursor moves to the bottom right.



Turn the jog dial to move the cursor to the left or right.
Press the [FUNC.] button and turn the jog dial to move the cursor up or down.

14 Turn the jog dial to move the cursor (the orange ☐) to the lower right of the position where an area is to be set and then turn the shuttle dial clockwise.

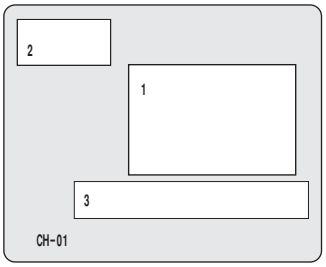
The cursor (the orange ☐) moves to the top left of frame 2.



Turn the jog dial to move the cursor to the left or right.
Press the [FUNC.] button and turn the jog dial to move the cursor up or down.

15 Set the areas in frame 2 and frame 3 in the same way.

The cursor moves to “T-1”.



NOTE

- Turn the shuttle dial counter-clockwise to return to the previous operation.
- If areas coincide, the smaller area number is prioritized.
- Large ROI size decreases ROI effectiveness.

16 With the mark in the upper right corner of the screen disappeared, turn the shuttle counter-clockwise.

Area setting is completed and the display returns to the <ROI SET> screen.

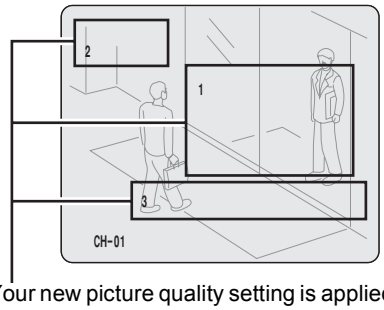
17 Press the [EXIT/OSD] button.

The normal display is restored.

Confirming picture quality of ROI setting

Since the picture quality you set for each area is reflected directly on the <AREA SET> screen, you can easily compare the area of interest (ROI) with ordinary areas.

<AREA SET> screen



Your new picture quality setting is applied to the actual image displayed in the "STATIC AREA".

NOTE

- The <AREA SET> screen displays an image in the recording mode configured in "EFFECTIVE REC MODE". When it is set to "NORMAL/ALARM", the screen displays an image in normal recording mode.
- You cannot check the picture quality on the <AREA SET> screen while recording is in progress or prealarm recording is in effect.

Setting alarm notification

Use the following procedure to receive notification by e-mail when an alarm event occurs while the digital video recorder is connected to a network. Alarm notification cannot be set from the digital video recorder.
Set this on a PC connected to the network. (→P.207)
The following section describes how to display the alarm notification setting details.

NOTE

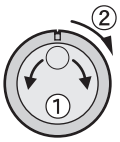
- When alarm notification settings are performed on a computer connected to the network, unavailable characters are displayed as "*" on the digital video recorder.

1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

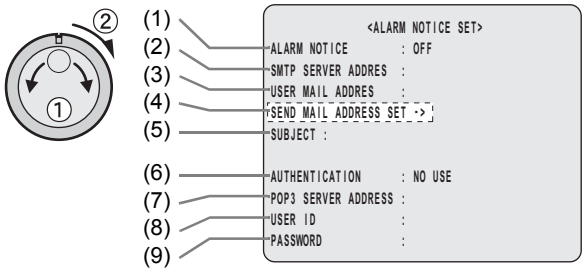
2 Turn the jog dial to select "8.ADVANCED MENU SET" and then turn the shuttle dial clockwise.

The <ADVANCED MENU SET> screen is displayed.



3 Turn the jog dial to select "2.ALARM NOTICE SET" and then turn the shuttle dial clockwise.

The <ALARM NOTICE SET> screen is displayed.



(1) ALARM NOTICE
Displays whether or not an alarm notification is sent.

(2) SMTP SERVER ADDRESS
Displays the SMTP server address.

(3) USER MAIL ADDRESS
Displays the e-mail address from which the alarm notification is sent.

(4) SEND MAIL ADDRESS SET
Displays the <SEND MAIL ADDRESS SET> screen.
(→ step 4)

(5) SUBJECT
Displays the e-mail subject.

(6) AUTHENTICATION
Displays whether or not user authentication is performed.

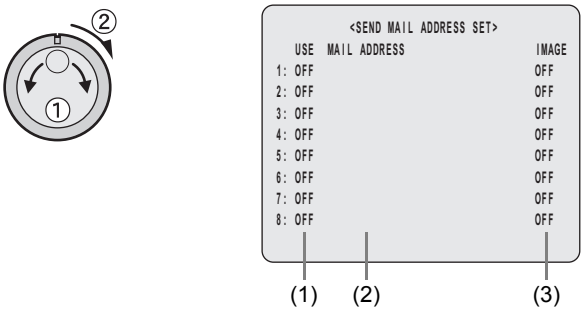
(7) POP3 SERVER ADDRESS
Displays the POP3 server address.

(8) USER ID
Displays the user ID.

(9) PASSWORD
Displays the password.

4 Turn the shuttle dial clockwise.

The <SEND MAIL ADDRESS SET> screen is displayed.



(1) USE
Displays whether or not an alarm notification is sent to the recipient e-mail address.

(2) MAIL ADDRESS
Displays the e-mail address to which the alarm notification is sent.

(3) IMAGE
Displays whether or not an alarm image is attached to the e-mail.

5 Press the [EXIT/OSD] button.

The normal display is restored.

Camera control settings

Settings are required when a remote control camera(s) is connected with the digital video recorder.
Through making the connections by following the procedure below, you can control a camera(s) in the full screen mode.

Connections necessary for remote operation:
- Connect coaxial control cameras to the VIDEO terminal.
- Connect the Sanyo RS-485 control camera to the RS-485 (RJ-11) terminal.
- Connect another maker's RS485/422 control camera to the 2ND RS485/422 terminal.

CAUTION

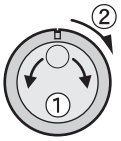
- If "ADDRESS" in the <RS-485 SET> screen (→P.121) is set to between "001" and "008", camera control settings can be performed. Camera control settings are not available if "ADDRESS" is set to "000" or between "009" and "127".
- Before configuring trigger actions, be sure to configure the settings under "ALARM REC MODE SET" and "PROTOCOL/ADDRESS SET".

1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

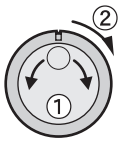
2 Turn the jog dial to select "8.ADVANCED MENU SET" and then turn the shuttle dial clockwise.

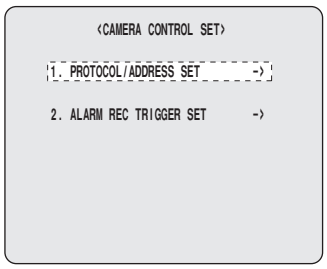
The <ADVANCED MENU SET> screen is displayed.



3 Turn the jog dial to select "3.CAMERA CONTROL SET" and then turn the shuttle dial clockwise.

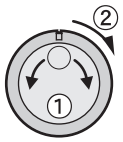
The <CAMERA CONTROL SET> screen is displayed.

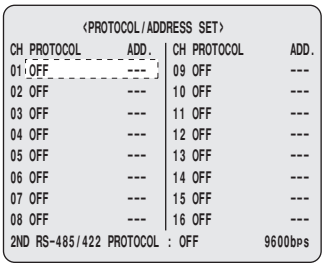




4 Turn the jog dial to select "1.PROTOCOL/ADDRESS SET" and then turn the shuttle dial clockwise.

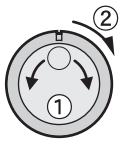
The <PROTOCOL/ADDRESS SET> screen is displayed.

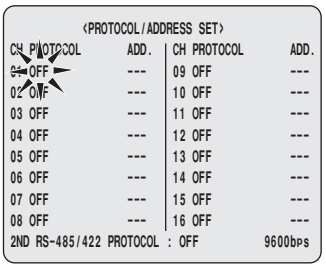



‹PROTOCOL/ADDRESS SET›
CH PROTOCOL ADD. CH PROTOCOL ADD.
01 OFF --- 09 OFF ---
02 OFF --- 10 OFF ---
03 OFF --- 11 OFF ---
04 OFF --- 12 OFF ---
05 OFF --- 13 OFF ---
06 OFF --- 14 OFF ---
07 OFF --- 15 OFF ---
08 OFF --- 16 OFF ---
2ND RS-485/422 PROTOCOL : OFF 9600bps

5 Turn the jog dial to select the camera number corresponding to a connected dome camera and then turn the shuttle dial clockwise.

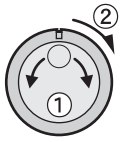
"OFF" flashes for "PROTOCOL".
On the DSR-5709P, cameras No. 01-09 are displayed.

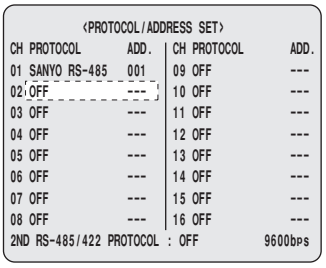



‹PROTOCOL/ADDRESS SET›
CH PROTOCOL ADD. CH PROTOCOL ADD.
01 OFF --- 09 OFF ---
02 OFF --- 10 OFF ---
03 OFF --- 11 OFF ---
04 OFF --- 12 OFF ---
05 OFF --- 13 OFF ---
06 OFF --- 14 OFF ---
07 OFF --- 15 OFF ---
08 OFF --- 16 OFF ---
2ND RS-485/422 PROTOCOL : OFF 9600bps

6 Turn the jog dial to select a protocol and then turn the shuttle dial clockwise.

The cursor moves to the next camera number.




‹PROTOCOL/ADDRESS SET›
CH PROTOCOL ADD. CH PROTOCOL ADD.
01 SANYO RS-485 001 09 OFF ---
02 OFF --- 10 OFF ---
03 OFF --- 11 OFF ---
04 OFF --- 12 OFF ---
05 OFF --- 13 OFF ---
06 OFF --- 14 OFF ---
07 OFF --- 15 OFF ---
08 OFF --- 16 OFF ---
2ND RS-485/422 PROTOCOL : OFF 9600bps

[Settings] (◆ indicates default setting)

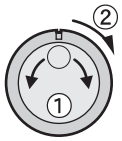
Setting	Description
◆OFF	No protocol
SANYO RS485	SANYO RS485
BBV COAX	BBV COAX (Also supports AUX commands.)
PELCO COAX	PELCO COAX
2ND RS-485/422	2ND RS-485/422
COAX (H-SSP)	COAX (H-SSP)

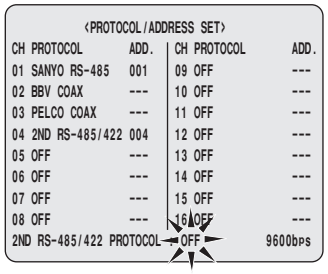
NOTE

- "COAX" stands for coaxial control and the video signal and camera control signal. This requires no further wiring for signal control.

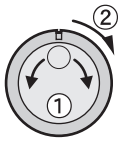
7 Use the same procedure to set the connection channels of other dome cameras.

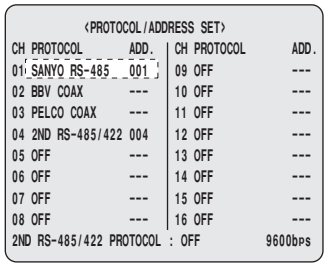
8 When "2ND RS485/422" is selected for "PROTOCOL", turn the jog dial to select "2ND RS485/422 PROTOCOL", and turn the shuttle clockwise.




‹PROTOCOL/ADDRESS SET›
CH PROTOCOL ADD. CH PROTOCOL ADD.
01 SANYO RS-485 001 09 OFF ---
02 BBV COAX --- 10 OFF ---
03 PELCO COAX --- 11 OFF ---
04 2ND RS-485/422 004 12 OFF ---
05 OFF --- 13 OFF ---
06 OFF --- 14 OFF ---
07 OFF --- 15 OFF ---
08 OFF --- 16 OFF ---
2ND RS-485/422 PROTOCOL : OFF 9600bps

9 Turn the jog dial to select the protocol to set and then turn the shuttle dial clockwise.




‹PROTOCOL/ADDRESS SET›
CH PROTOCOL ADD. CH PROTOCOL ADD.
01 SANYO RS-485 001 09 OFF ---
02 BBV COAX --- 10 OFF ---
03 PELCO COAX --- 11 OFF ---
04 2ND RS-485/422 004 12 OFF ---
05 OFF --- 13 OFF ---
06 OFF --- 14 OFF ---
07 OFF --- 15 OFF ---
08 OFF --- 16 OFF ---
2ND RS-485/422 PROTOCOL : OFF 9600bps

NOTE

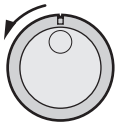
- From the data speed options (2400/4800/9600bps) for the protocol you select for "2nd RS485/422 PROTOCOL", select one that is compatible with the data speed of the camera.
- Camera control address
  The camera address is a fixed value and is as follows.
  If a protocol other than SANYO RS-485 or 2ND RS485/RS422 is selected, "---" is displayed for the cameral control address.
  On the DSR-5709P, CH1-CH9 are available.

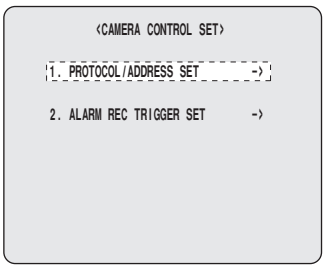
DVR/ RS-485 address	Camera control address		DVR/ RS-485 address	Camera control address	
DVR1:001	CH1	001	DVR2:002	CH1	017
	CH2	002		CH2	018
	CH3	003		CH3	019
	CH4	004		CH4	020
	CH5	005		CH5	021
	CH6	006		•	•
	CH7	007		•	•
	CH8	008		•	•
	CH9	009	DVR8:008	CH1	113
	CH10	010		CH2	114
	CH11	011		CH3	115
	CH12	012		CH4	116
	CH13	013		CH5	117
	CH14	014		•	•
	CH15	015		CH15	127
	CH16	016		CH16	000*1

*1 Cannot be operated from a VSP-9000 controller.

10 Once the settings are completed on the <PROTOCOL/ADDRESS SET> screen, turn the shuttle dial counter-clockwise.

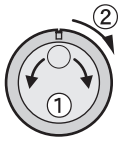
The display returns to the <CAMERA CONTROL SET> screen.

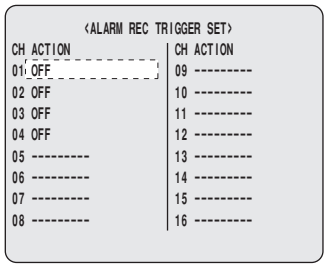




11 Turn the jog dial to select “2. ALARM REC TRIGGER SET” and then turn the shuttle dial clockwise.

The <ALAMR TRIGGER SET> screen is displayed.

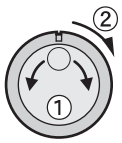


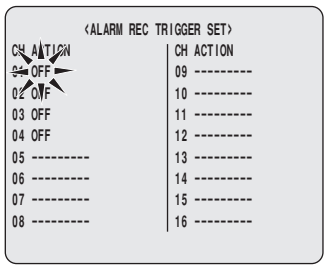


On the <ALARM REC TRIGGER SET> screen, you can specify the interlocked operation of the camera when an alarm is detected. You can configure the camera to automatically change lens orientation, auto-pan or tour on alarm detection.

12 Turn the jog dial to select a camera number, and then turn the shuttle dial clockwise.

“OFF” for “ACTION” flashes.
For DSR-5709P, the camera numbers from “01” to “09” are displayed.



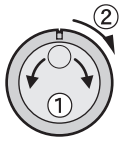


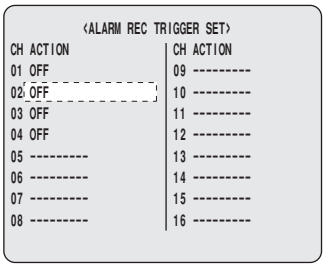
NOTE

- If a protocol is not set in the <PROTOCOL/ADDRESS SET> screen, “------” is displayed for “ACTION” and no value can be set.

13 Turn the jog dial to select the interlocked operation, and then turn the shuttle dial clockwise.

The cursor moves to the next “ACTION” field.





[Settings] (◆ indicates default setting)

Setting	Description
◆OFF	No action triggered.
PRESET	Moves the camera lens to the angle corresponding to your selected preset number.
PAN	Starts automatic panning.
TOUR	Starts tour.
SEQUENCE	Starts sequence.

NOTE

- For “PRESET”, you can set “PRESET2-9” with DSR-5709P and “PRESET2-16” with DSR-5716P.

CAUTION

- In the case more than one camera has issued an alarm simultaneously, some or all trigger actions may fail to operate correctly because only one camera can be operated at a time.
- Actually available actions depend on each camera. For more information, refer to the camera's instruction manual.

14 Use the same procedure as above to set the interlocked operation of other cameras.

15 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

EXIT/OSD

How to Register Preset Positions

To register preset positions that are applied during camera control, follow these steps:

1 Press the [FUNC.] button (①).

The FUNC. indicator lights up in blue to indicate that you are now in camera control mode.

2 Set the camera lens orientation.

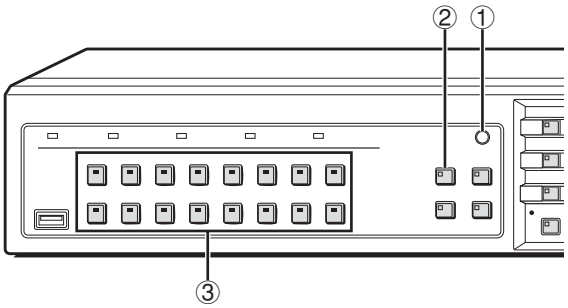
Adjust the lens to your desired orientation using the pan/tilt functions.

3 Press and hold the [PRESET] button (②) for about 3 seconds.

The buzzer beeps twice and the button indicator flickers (at 4Hz) to indicate that you are now in preset registration mode.

4 Press one of the [CAMERA SELECT] buttons (③) to specify the channel number for the camera.

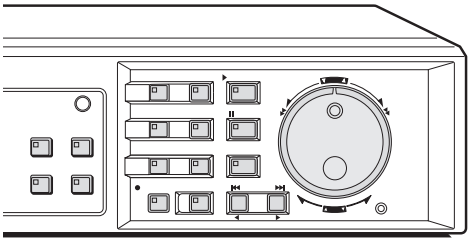
The button stops flickering, and the camera lens orientation at the time of button press is registered as the preset position. Repeat steps 2 and 3 above to register the preset positions for other cameras.



NOTE

- Each preset number is associated with a specific channel number.
  For example, CH02 corresponds to PRESET 2.

Operating the camera with the digital video recorder



1 Press the [FUNC.] button.

The FUNC. indicator lights up and camera operation mode is activated.

FUNC.

2 Click the buttons to operate the camera.

Button	Button name in normal mode	Operation
[MENU] button	[MENU] button	Displays the camera menu screen.
[ENTER] button	[EXIT/OSD] button	Determines items on the camera menu screen.
[PRESET] button	[QUAD] button	Press the [PRESET] button and then the [CAMERA SELECT] button to move to a preset position.
[AUTO PAN] button	[MULTI] button	Enables auto panning (refer to note)
[SEQUENCE] button	[MON2] button	Enables automatic camera selection (refer to note)
[TOUR] button	[PLUS] button	Enables TOUR (refer to note)
[ZOOM↑] button	[I◀◀alarm] button	Zooms out
[ZOOM↓] button	[alarm ▶▶I] button	Zooms in
[AF] button	[PLAY/STOP] button	Enables auto focus
[FOCUS] button	[SHUTTLE HOLD] button	Press the [FOCUS] button and use [ZOOM ↑] or [ZOOM ↓] button to manually adjust the focus.
[IRIS] button	[STILL] button	Press the [IRIS] button and use [ZOOM ↑] or [ZOOM ↓] button to adjust the iris (aperture).
PAN	Shuttle dial	Controls manual panning
TILT	Jog dial	Controls manual tilting

NOTE

- Turn the shuttle dial during automatic panning, automatic camera selection, or TOUR for manual panning and turn the jog dial for manual tilt and to cancel automatic modes.
- Operation is only possible for one camera.
- When switching to another camera during automatic panning, automatic camera selection, or TOUR, the following operations are available only for the second camera. Automatic panning, automatic camera selection, and TOUR continue for the first camera.
- When an alarm occurs during camera operation, the CH that the alarm occurred on is displayed on the screen and camera operation mode is canceled.
- Depending on the connected camera, some functions do not operate even when buttons are pressed.

Time zone/NTP setting

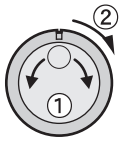
Use the following procedure to synchronize the time using the Internet or an NTP server on a LAN.

1 Press the [MENU] button.

The MENU indicator lights up and the <MAIN MENU> is displayed.

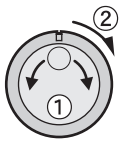
2 Turn the jog dial to select “8.ADVANCED MENU SET” and then turn the shuttle dial clockwise.

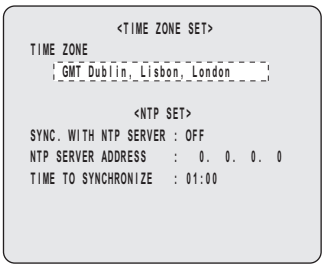
The <ADVANCED MENU SET> screen is displayed.



3 Turn the jog dial to select “5.TIME ZONE/NTP SET” and then turn the shuttle dial clockwise.

The <TIME ZONE SET> / <NTP SET> screen is displayed.



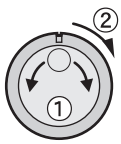


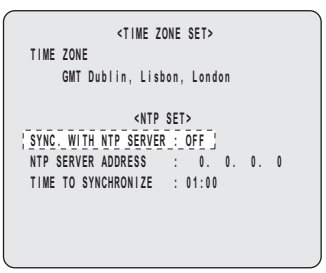
4 Turn the shuttle dial clockwise.

“GMT Dublin, Lisbon, London” flashes.

5 Turn the jog dial to select the “TIME ZONE” setting and then turn the shuttle dial clockwise.

Set the time zone. Select the region where the digital video recorder is installed.
The cursor moves to “SYNC. WITH NTP SERVER”.





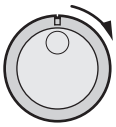
[Settings] (◆ indicates default setting)

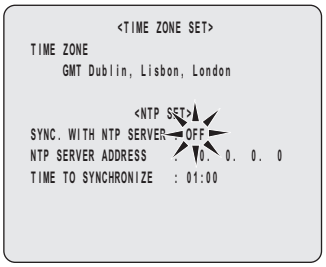
Setting	Description
GMT-12 Eniwetok, Kwajalein	Greenwich Mean Time -12 hours, Eniwetok, Kwajalein

Setting	Description
GMT-11 Midway Island, Samoa	Greenwich Mean Time -11 hours, Midway Island, Samoa
GMT-10 Hawaii	Greenwich Mean Time -10 hours, Hawaii
GMT-09 Alaska	Greenwich Mean Time -9 hours, Alaska
GMT-08 Pacific Time	Greenwich Mean Time -8 hours, Pacific Time
GMT-07 Arizona, Mountain Time	Greenwich Mean Time -7 hours, Arizona
GMT-06 Central Time	Greenwich Mean Time -6 hours, Central Time
GMT-05 Eastern Time	Greenwich Mean Time -5 hours, Eastern Time
GMT-04 Atlantic Time (Canada)	Greenwich Mean Time -4 hours, Atlantic Time (Canada)
GMT-03:30 Newfoundland	Greenwich Mean Time -3 hours 30 minutes, Newfoundland
GMT-03 Brasilia	Greenwich Mean Time -3 hours, Brasilia
GMT-02 Mid-Atlantic	Greenwich Mean Time -2 hours, Mid-Atlantic
GMT-01 Azores, Cap Verde Is.	Greenwich Mean Time -1 hour, Azores
◆GMT Dublin, Lisbon, London	Greenwich Mean Time, Dublin, Lisbon, London
GMT+01 Amsterdam, Berlin, Rome	Greenwich Mean Time +1 hour, Amsterdam, Berlin, Rome
GMT+02 Athens, Istanbul, Minsk	Greenwich Mean Time +2 hours, Athens, Istanbul, Minsk
GMT+03 Moscow, Baghdad, Riyadh	Greenwich Mean Time +3 hours, Moscow, Baghdad, Riyadh
GMT+03:30 Tehran	Greenwich Mean Time +3 hours 30 minutes, Tehran
GMT+04 Kabul, Baku, Tbilisi	Greenwich Mean Time +4 hours, Kabul, Baku, Tbilisi
GMT+05 Islamabad, Tashkent	Greenwich Mean Time +5 hours, Islamabad, Tashkent
GMT+05:30 Mumbai, Kolkata	Greenwich Mean Time +5 hours 30 minutes, Mumbai, Kolkata
GMT+06 Almaty, Dhaka	Greenwich Mean Time +6 hours, Almaty, Dhaka
GMT+07 Bangkok, Hanoi, Jakarta	Greenwich Mean Time +7 hours, Bangkok, Hanoi, Jakarta
GMT+08 Beijing, Hong Kong	Greenwich Mean Time +8 hours, Beijing, Hong Kong
GMT+09 Osaka, Sapporo, Tokyo	Greenwich Mean Time +9 hours, Osaka, Sapporo, Tokyo
GMT+10 Canberra, Sydney	Greenwich Mean Time +10 hours, Canberra, Sydney
GMT+11 Magadan, Solomon Is.	Greenwich Mean Time +11 hours, Magadan, Solomon Is.
GMT+12 Auckland, Wellington	Greenwich Mean Time +12 hours, Auckland, Wellington
GMT+12 Fiji, Marshall Is.	Greenwich Mean Time +12 hours, Fiji, Marshall Is.

6 Turn the shuttle dial clockwise.

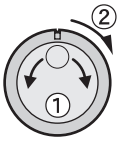
"OFF" flashes.

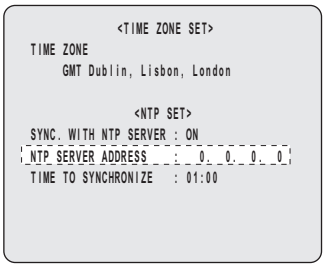




7 Turn the jog dial to select "ON" and then turn the shuttle dial clockwise.

The cursor moves to "NTP SERVER ADDRESS".



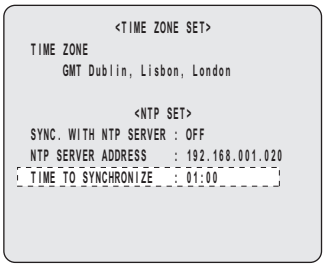


[Settings] (◆ indicates default setting)

Setting	Description
ON	To use NTP server
◆OFF	To not use NTP server

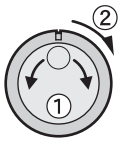
8 Set "NTP SERVER ADDRESS".

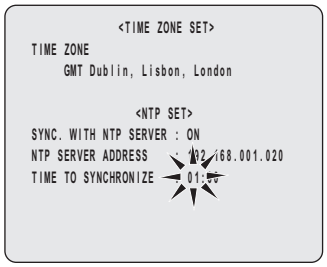
(1) Turn the shuttle dial clockwise.
(2) Turn the jog dial to select the first number (0 to 255) and then turn the shuttle dial clockwise. (Also use the [CAMERA SELECT] 0-9 buttons or the [QUAD] button (0) to input.)
(3) Use the same procedure to enter the remaining numbers. The cursor moves to "TIME TO SYNCHRONIZE".



9 Turn the jog dial to select “TIME TO SYNCHRONIZE” and then turn the shuttle dial clockwise.

“01” flashes.

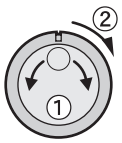


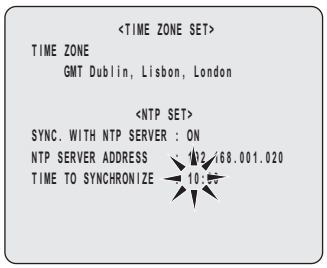


10 Set “TIME TO SYNCHRONIZE”.

Set the time to synchronize. The time is synchronized with the clock on the NTP server and updated each day at the specified time.
Hours: Select from 01 to 23.
Minutes: Select 00, 10, 20, 30, 40, or 50.

Example: 10:30
(1) Turn the jog dial to select “10” and then turn the shuttle dial clockwise.
“00” (minutes) flashes.
(2) Turn the jog dial to select “30” and then turn the shuttle dial clockwise.
Default setting: 01:00 (Time is updated at 1 AM.)

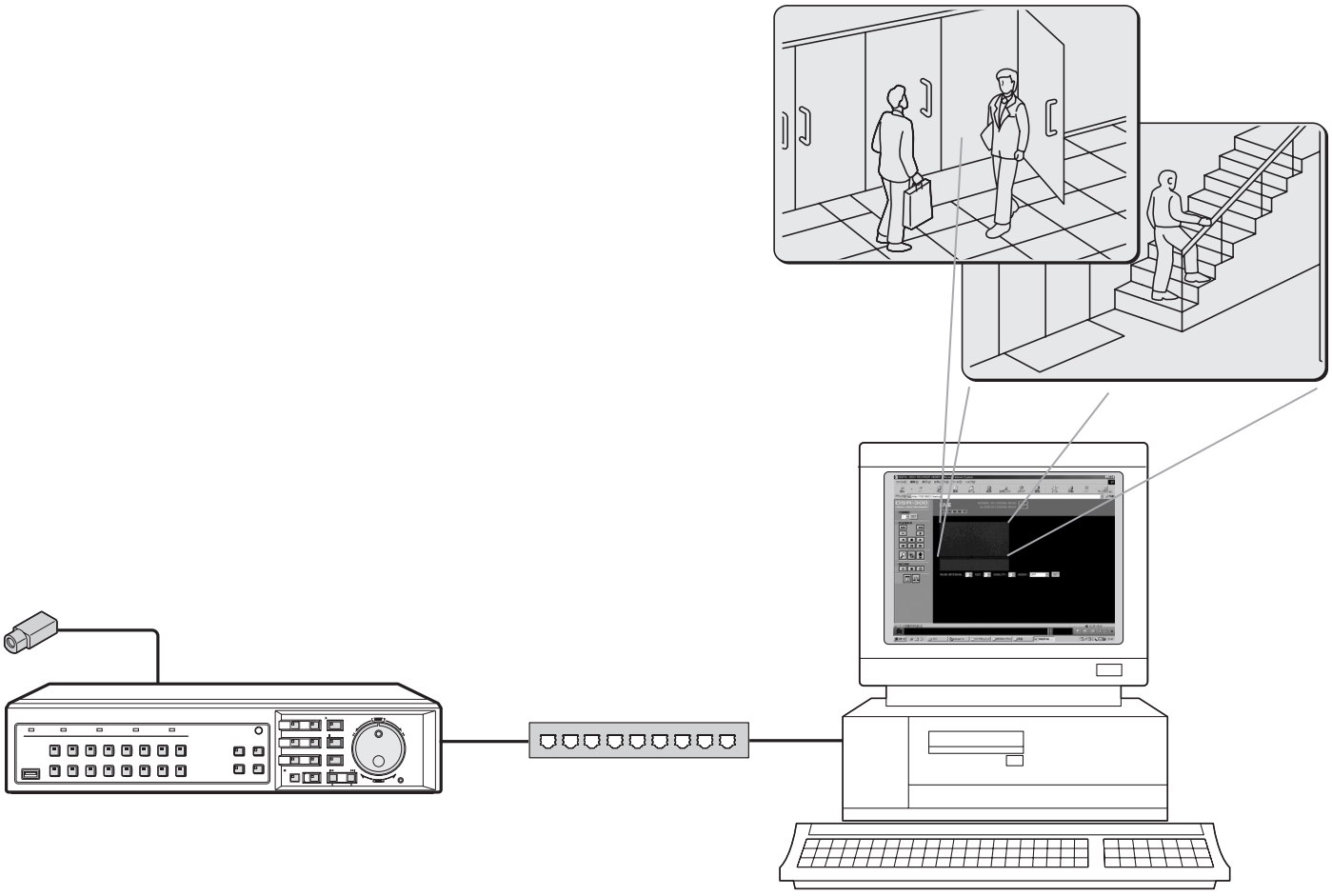




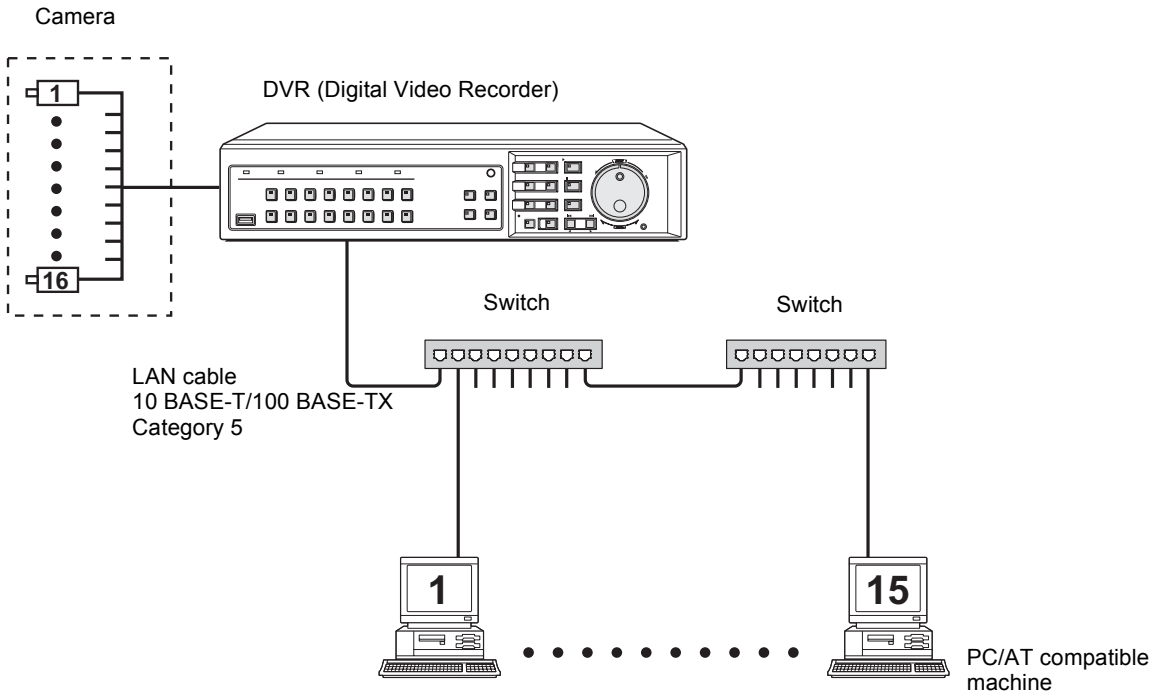
11 Press the [EXIT/OSD] button.

The setting is completed and the display returns to the normal screen.

Manual for Remote Operation by Network Connection



The digital video recorder can be remotely controlled from PCs when the unit is connected to a network.



Operations possible with PC control

- Menu settings, recording, playback, and other similar operations are possible from the PC screen.
- A maximum of 15 PCs can be simultaneously connected to a single DVR (Digital Video Recorder). However, the maximum number may not be possible depending on the NET conditions and the number of screens displayed.
  (Example)
  - Users with user level LV1: 12 PCs
  - Users with user level LV2: 2 PCs
  - Users with user level LV4: 1 PC
- Control of the DVR can be freely switched from the unit itself to the PC and vice versa. Note that operation of the unit is not affected by simply connecting a cable.
- In order to provide security for computer control, operations are restricted according to the user level. (→P.197)

NOTE

- Settings for some functions such as live motion detection cannot be made with Internet Explorer. To make further detailed settings, use the dedicated software. Please contact the dealer for details.

Digital video recorder network settings

- When controlling the digital video recorder by computer over the Internet or LAN, network settings such as IP address settings are necessary.
  See P.125 for more setting details.

CAUTION

- When a pre-existing network is being used, a check must be carried out by that network's administrator to confirm that the set IP addresses do not coincide with other IP addresses already in use.

Saving and playing back sound

- The dedicated application DVR Viewer2 (Ver. 1.0.0 or later) must be installed in order to store or play back audio on a networked PC or to play back video with audio stored on a PC, USB memory or other storage media.
  Please either install the software from the CD-ROM included with this product or download it from our website listed below.
- The JPEG2000 plug-in is required to view images.
  Please download it from our website listed below.

Sanyo website URL:
http://www.sanyosecurity.com

NOTE

- You can also access the downloading website by clicking the [Get JPEG2000 PLUG-IN] button on the control panel.

Installing DVR Viewer2

See P.211 for installing and operating DVR Viewer2.

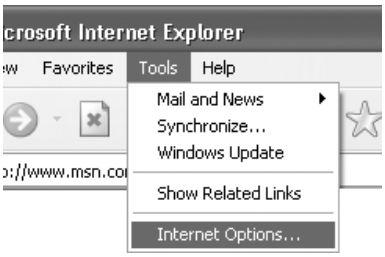
Setting Internet Options

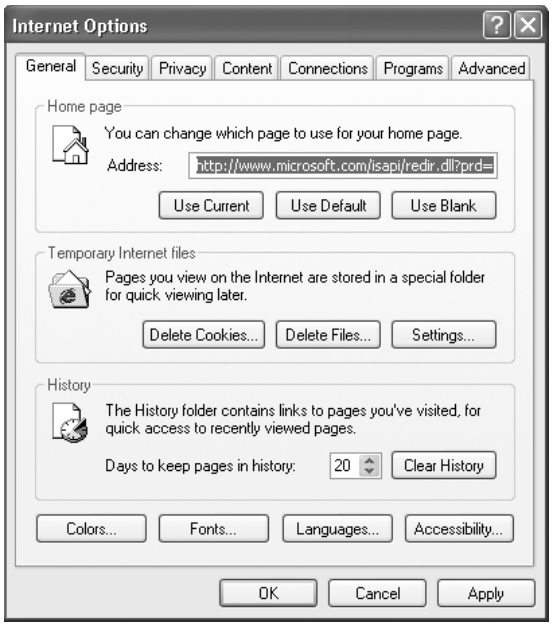
After installing DVR Viewer2, use the following procedure to make the Internet security settings.

1 Select [Internet Options...] from the Internet Explorer [Tools] menu.

The [Internet Options] window is displayed.

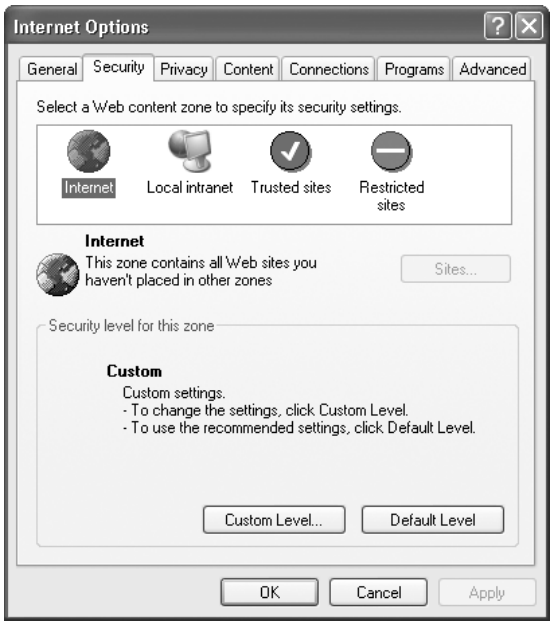
Example: Windows XP





2 Click the [Security] tab.

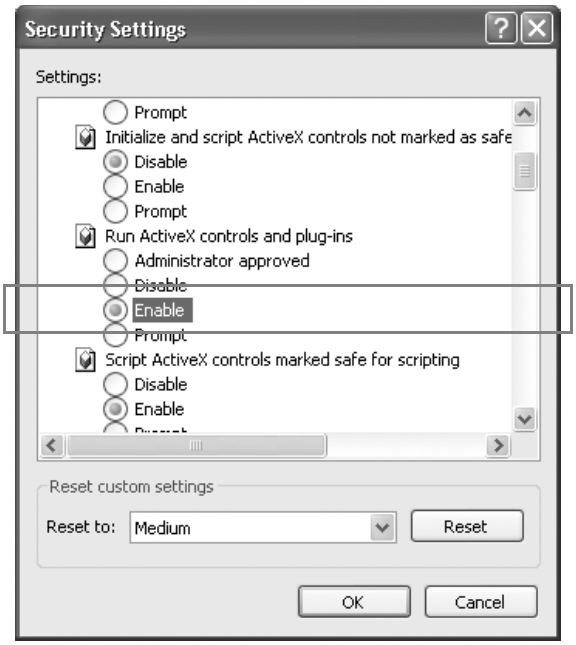
The [Security] screen is displayed.



3 Click [Custom Level...].

The [Security Settings] window is displayed.

Confirm that [Run ActiveX controls and plug-ins] is set to [Enable].
If this is not the case, click [Enable] for [Run ActiveX controls and plug-ins] to configure this setting as shown below.



This completes the Internet security setting procedure.

Minimum system requirements

Computer: PC/AT compatible machine
Operating system: Windows 98/98 SE/Me/NT 4.0/2000/XP
Browser: Internet Explorer 5.5 SP2 or later
Video: 65,000 colors, resolution 800 x 600 dpi or higher

Recommended specifications
CPU: Pentium® 4 (2 GHz) or better
RAM: 256 MB minimum
Operating system: Windows 2000, XP, or later

Audio playback requirements

DirectX and compatible sound card
Speakers

TCP/IP settings

The following example applies to Windows XP.
Transmission control protocol/Internet protocol (TCP/IP) is the standard protocol used for the Internet and intranets. If this unit is to be used while connected to a network, specify a TCP/IP to suit each operating system.

1 Click the [Network and Internet Connections] icon in the [Control Panel].

The [Network and Internet Connections] window is displayed.

2 Click [Network Connections].

The [Network Connections] window is displayed, and the settings for the LAN card (Ethernet adapter) being used are displayed in the [LAN or High-Speed Internet] column.

3 Right-click on the LAN card (Ethernet adapter) being used and then select [Properties] from the pop-up menu.

The [General] tab in the [Local Area Connection Properties] window is displayed.

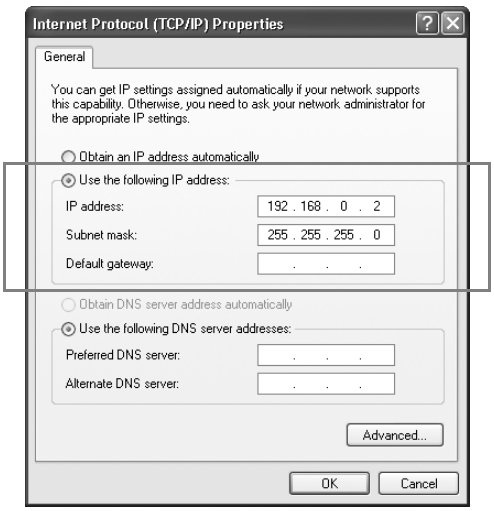
4 Check that [Internet Protocol (TCP/IP)] is selected in the list of components used by the Ethernet board displayed in the [This connection uses the following items:] box.

If [Internet Protocol (TCP/IP)] is not selected, select it.

5 Click [Properties].

The [General] tab in the [Internet Protocol (TCP/IP) Properties] window is displayed.

6 Select [Use the following IP address:] and then type in the IP address and the subnet mask.


Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
192 . 168 . 0 . 2
Subnet mask:
255 . 255 . 255 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

7 Check the settings, and then click [OK].

The display returns to the [Local Area Connection Properties] window.

8 Click [OK].

This completes the TCP/IP settings.

CAUTION

- Ask the network administrator for details on the IP address, subnet mask, default gateway and DNS settings.

Security settings

If using Outlook Express version 6 SP1 or later:
To receive mail with image attachments with the alarm notification function, the following must be set.

Select [Tools] ➔ [Options...] ➔ [Security] in order and uncheck “Do not allow attachments to be saved or opened that could potentially be a virus”.

It is recommended that anti-virus procedures be implemented before changing these settings.

Controlling from a PC

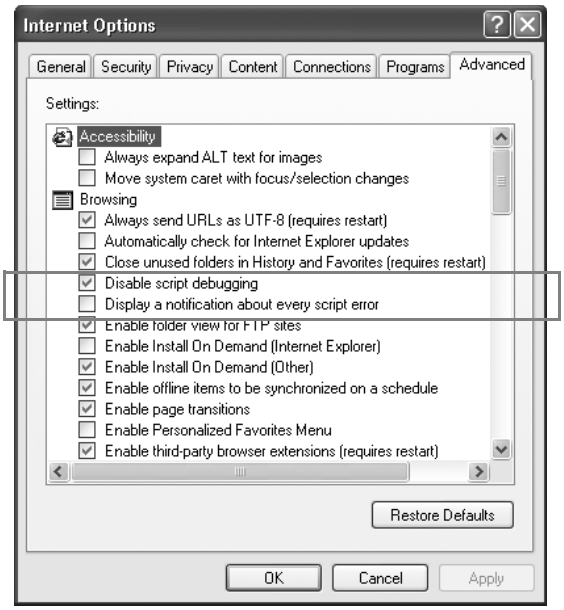
1 Launch the web browser on the PC.

Internet Explorer 5.5 SP2 or later is supported.
These operating systems are supported: Windows 98, 98 SE, Me, NT 4.0, 2000 and XP

CAUTION

- If no web browser is installed on the PC, install Internet Explorer before proceeding.
- If the Java Script run-time error message is displayed while Internet Explorer is being used, modify that application's settings as follows:

(1) Select [Tools] ➔ [Internet Options] ➔ [Advanced] in order.
(2) Uncheck [Display a notification about every script error] from the [Advanced] screen, and check [Disable script debugging].



2 Enter the unit's URL.

In the address bar of a browser, enter the IP address to access the digital video recorder and press the [Enter] key.

Example:

When connecting the unit directly to the Internet (without a router) set the fixed IP address received from the Internet service provider.

When creating a LAN and setting a private IP address on the unit, the port forwarder settings must be completed for the router. When setting the port forwarder, enter the WAN side IP address in the URL.
Contact the network administrator for more details.
(Depending on the device, "Port forwarding" may be called "Static IP Masquerade", "Address translation", "Port mapping", or "Virtual server".)

CAUTION

- In the network settings (→P.125), if a value other than "80" is set as the default port value, enter a colon (:) and then the port number after the IP address.
  For example, if the port number was set as "60001" you should enter
  http://192.168.0.1:60001/

3 Enter a password (for verification purposes).

A verification screen is displayed when accessed. Enter [User name] and [Password] for verification purposes and click the [OK] button.
If the password is incorrect, the password entry screen is displayed again, prompting you to re-enter the password.

- The following are default settings for user ID and password.

User ID	Password
ID4	4444
ID3	3333
ID2	2222
ID1	1111

Refer to P.117 for details on how to set user level and authorization.

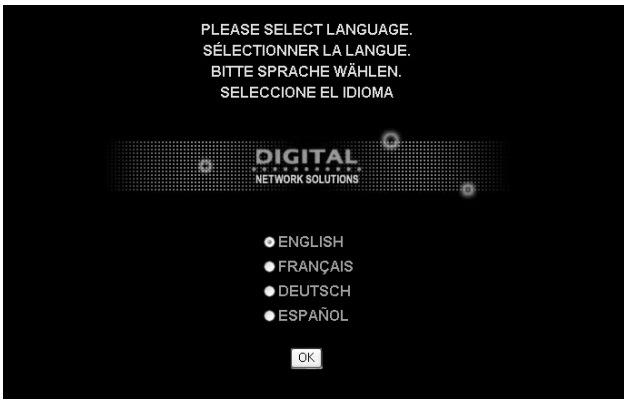
- Check "ON" for "Remember my password" to save [User name] and [Password]. Verification will be carried out automatically on subsequent occasions. Note, however, that it may not be possible to save a password other than that used for the default connection.
- Up to fifteen PCs can be connected simultaneously to a single DVR. Users at LV3 and LV4 are restricted to one PC, and users at LV2 are restricted to three PCs.

CAUTION

- When the maximum number of PCs (15) is connected to the digital video recorder and then an upper-level user accesses the unit from a different PC, the most recent lower-level user is automatically disconnected and priority is given to the upper-level user.
  An error message is displayed on the PC of the disconnected user. (→P.164)
- If entry of an incorrect password is repeated or [Cancel] is clicked, [AUTHENTICATION ERROR] displayed.
- If a user clicks a restricted button during computer control, the password input screen is displayed to verify the required user level.

4 Select a language and click [OK].

The operation screen is displayed and computer control is now enabled.



CAUTION

- A connection may not be possible via a proxy server. In this case, cancel the proxy settings.
- Due to certain PC performance levels and specifications, a portion of the video may not be displayed. In this case, go to [Tools] → [Internet Options] → [Temporary Internet Files] → [Settings] in Internet Explorer, and then reduce [Amount of disk space to use].

Disconnecting

1 Click the button on the operation screen of the PC.

The connection is cancelled and control rights are returned to the unit.

NOTE

- To forcibly cancel PC access from the unit, press and hold the [SHUTTLE HOLD] button for at least 3 seconds.
- Access from the PC is not permitted for a period of 10 seconds after access is cancelled.
- The access connection is also cancelled and control rights then switch back to the unit whenever communication with the PC is not possible for a period of about 1 minute or more.
- If the browser is closed without clicking the button, approximately 1 minute is required before reconnection is possible.

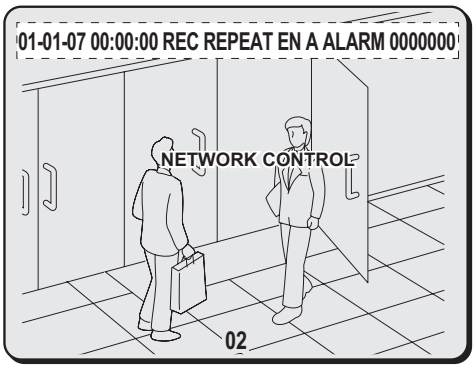
Messages displayed when connected

Messages related to the switching of control or the network connection status may be displayed on-screen at any time.

Display on the unit

■ When control rights are switched to the PC

"NETWORK CONTROL" is displayed on the monitor.
The "NETWORK CONTROL" message is displayed when connected to a network, regardless of whether control is performed from the PC or the digital video recorder



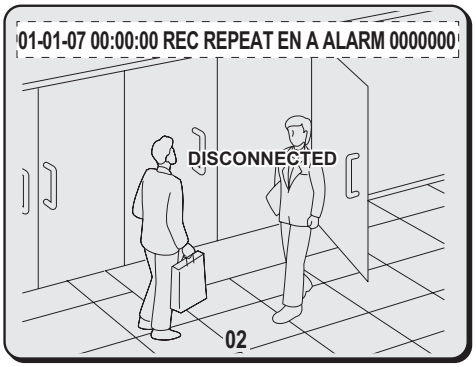
NOTE

- The "NETWORK CONTROL" message is not displayed when the network control setting (→P.128) connection display is set to "OFF" using the unit's setting menu.

■ When control rights are switched to the unit

Whenever the button on the operation screen of the PC is clicked, access is cancelled and control rights switch back to the unit. At the same time, the “NETWORK CONTROL” message from the unit’s on-screen display changes to “DISCONNECTED”.

- Once the message changes to “DISCONNECTED”, it can be cleared by pressing any button on the unit.



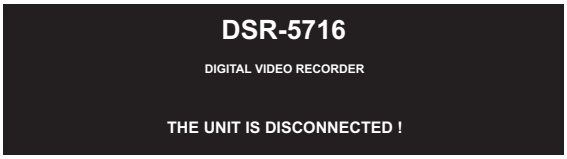
■ Forced disconnection from the unit

When security lock is not turned ON, press and hold the [SHUTTLE HOLD] button on the DVR for at least 2 seconds. When access is forcibly cancelled in this way, the “NETWORK CONTROL” message changes to “DISCONNECTED”.

- Access from the PC is not permitted for a period of 10 seconds after access is cancelled.

Display on the PC

■ When disconnected from the network



This screen is displayed in the following cases.

- Connection is forcibly terminated from the DVR unit.
- Connection is terminated manually by clicking the disconnect button.
- Network settings are changed while LV1 or LV2 user is connected to the network.
- User ID and password are changed while LV1 or LV2 user is connected to the network.

■ When network settings are changed

This screen is displayed in the following cases.

- Settings on the DVR unit are changed.
- Own User ID settings are changed.

■ When connection to the network cannot be made because the DVR is being operated

This screen is displayed in the following cases.

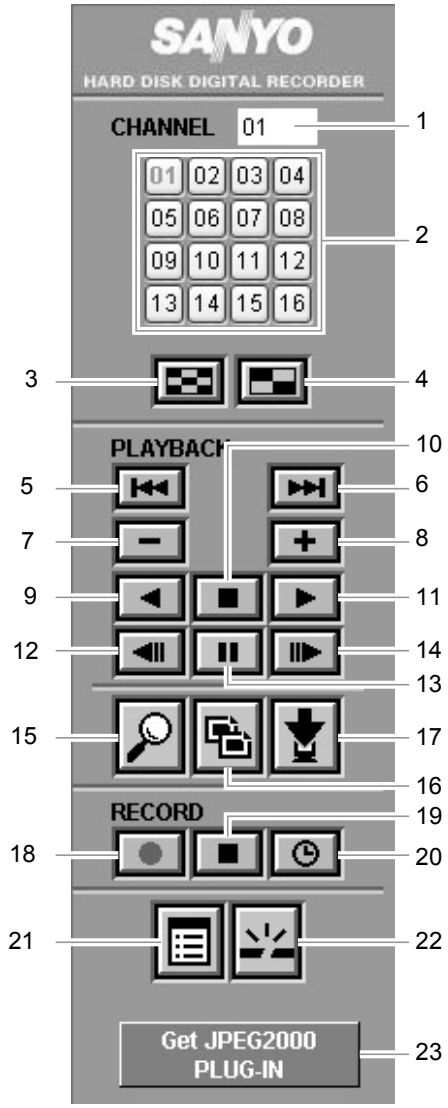
- Copying is made on the DVR unit.
- Menu is displayed on the DVR unit.

■ When the number of users to be connected exceeds the concurrent connection restriction

This screen is displayed in the following cases.

- Connection via ID1 is attempted when 15 computers are already connected
- Connection via ID3 is attempted when ID4 user is already connected
- Connection via ID3 is attempted when ID3 user is already connected
- Connection via ID4 is attempted when ID4 user is already connected
- Connection is attempted when users are already connected to ID2, ID3 and ID4

Operation panel



Channel and screen selection buttons

1. Channel number
Displays the channel number selected using “Channel selection”.
The DSR-5709P displays only nine channels.

2. Channel selection (LV1/2/3/4)
Selects a camera channel when displaying video on a full screen.
The DSR-5709P displays only nine channels.

3. Multi 9/16 screen display (LV1/2/3/4)
Click once to display 16 screens, and again to display 9 screens.
The DSR-5709P can only display video in nine screens.

4. Quad-screen display (LV1/2/3/4)
Click to display 4 screens.

Playback buttons

5. Previous event (LV2/3/4)
Starts playback from the previous alarm event.

6. Next event (LV2/3/4)
Starts playback from the next alarm event.

7. Slower (LV2/3/4)
Playback speed is reduced by one setting.

8. Faster (LV2/3/4)
Playback speed is increased by one setting.

9. Reverse playback (LV2/3/4)
Starts playback of recorded images in the reverse direction.

10. Stop (LV2/3/4)
Stops playback and returns to live display.

11. Play (LV2/3/4)
Starts playback of recorded images.

12. Previous image (LV2/3/4)
Moves a still image back one frame.

13. Still (LV2/3/4)
Pauses the image during playback.

14. Next image (LV2/3/4)
Advances a still image forward one frame.

Search/Copy/Download buttons

15. Search (LV2/3/4)
Displays the search screen (i.e., setting screen).

16. Copy (by setting)
Displays the copy screen (i.e., setting screen).

17. Download (by setting)
Displays the download screen (i.e., setting screen).

Recording buttons

18. Record (LV3/4)
Starts normal recording.

19. Stop (LV3/4)
Stops normal recording.

20. Timer (LV3/4)
Activates timer standby mode when clicked while recording is stopped. If clicked in Timer Standby mode, it deactivates this mode.

Other buttons

21. Menu setting (LV4)
Displays the menu screen (i.e., setting screen).

22. Disconnect (LV1/2/3/4)
Disconnects the PC from the network and switches control rights to the unit.

23. [Get JPEG2000 PLUG-IN] button (LV1/2/3/4)
Accesses the website for downloading DVR Viewer2, JPEG2000 Plug-in, etc.

* Entries in parentheses refer to user level restrictions for the specific button. (→P.197)

Camera operation panel

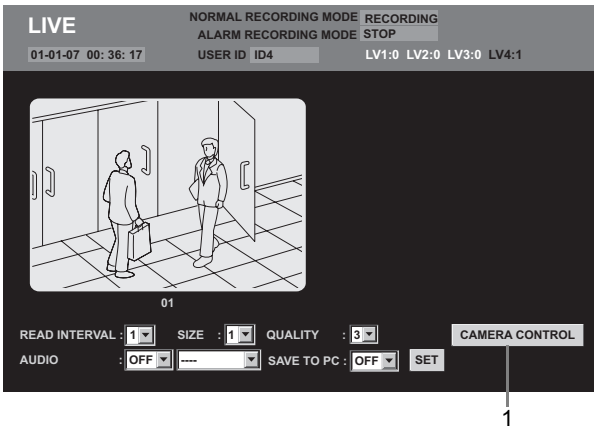
Operation is available when a camera with remote operation capability is connected to the VIDEO terminal, RS-485 terminal, or 2ND RS485/422 terminal and settings are carried out using camera control settings (→P.209).

NOTE

- Use the network control settings (→P.200) to set user levels for camera operation.
- Camera controls are carried out in full screen display.
- Multiple users can simultaneously monitor and control the same camera.

1 Click [CAMERA CONTROL].

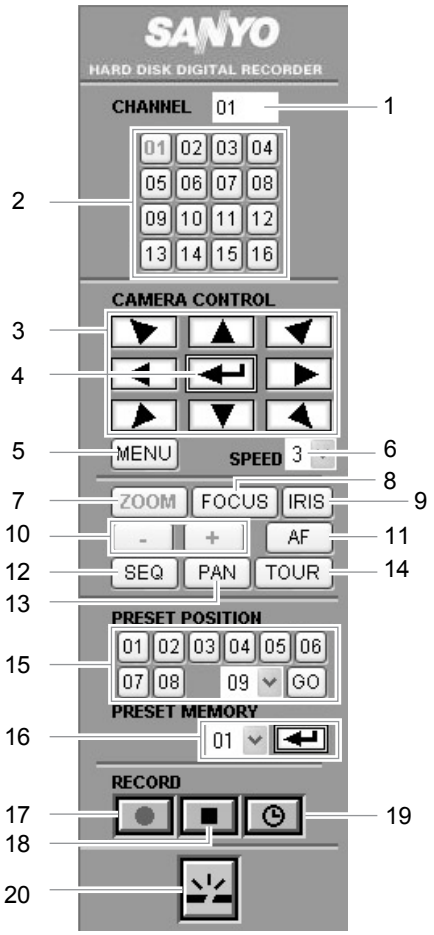
In place of the operation panel on the left side of the screen, camera operation panel is displayed.



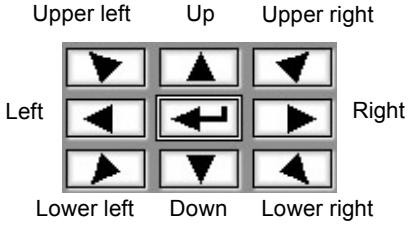
CAUTION

- When “AUDIO” is set to “ON” or when saving real-time to PC, the [CAMERA CONTROL] button is not displayed.

2 Click each button to use a dome camera.



1. **Channel number**
   Displays the channel number selected using “Channel selection”.
   The DSR-5709P displays only nine channels.
2. **Channel selection**
   Select a camera channel.
   The DSR-5709P displays only nine channels.
3. **Pan/tilt**
   Adjust camera direction. Follow the chart below and press directional buttons to adjust camera in eight different directions.
   When displaying camera internal menu, use for selecting menu items.



4. **Menu set**
   Sets the camera internal menu item setting values.
5. **[MENU]**
   Displays camera internal menu screen.
6. **Control speed**
   Adjusts the operation speed for Pan and Tilt.
   Sets a level between 1 and 7. Higher values correspond to faster operation speed.
7. **[ZOOM]**
   Activates zoom mode. (“ZOOM” turns green)
   Use -/+ to zoom.
8. **[FOCUS]**
   Activates focus adjust mode. (“FOCUS” turns green)
   Adjust focus with -/+.
9. **[IRIS]**
   Activates IRIS adjust mode. (“IRIS” turns green)
   Adjust IRIS with -/+.
10. **-/+**
    Use when zooming, adjusting focus, and adjusting IRIS.
11. **[AF]**
    Use auto-focus.
12. **[SEQ]**
    Starts automatic camera selection. Press a different operation button to switch to that operation.
13. **[PAN]**
    Starts automatic panning. Press a different operation button to switch to that operation.
14. **[TOUR]**
    Starts the TOUR saved on the camera. Press a different operation button to switch to that operation.
15. **Preset access**
    Move camera into position set with preset number.
    For preset numbers after 9, select from the drop-down list and click [GO].
16. **Preset register**
    Select a preset number from the drop-down list and click Menu set to register the current camera position.
17. **Record (LV3, LV4)**
    This button starts normal recording.
18. **Record stop (LV3, LV4)**
    This button stops normal recording.
19. **Timer (LV3, LV4)**
    This button activates timer standby mode when clicked while recording is stopped. If clicked in Timer Standby mode, it deactivates this mode.
20. **Disconnect (LV1, 2, 3, 4)**
    This button disconnects the PC from the network and switches control rights to the unit.

NOTE ▶

- When pan/tilt is pressed during automatic panning, automatic camera selection or TOUR, manual pan/tilt mode is entered and all automatic modes are cancelled.

Finishing dome camera operation

3 Click [CAMERA CONTROL].

Camera operation panel changes to Normal operation panel.

1 RECORDING IMAGES

Use the following procedures to store monitored images and alarm images on the internal hard disk of the digital video recorder.
Before recording images, make the necessary menu settings to match the installation environment. (→P.184)

Normal recording

Use the following procedure to manually record live monitored images.

1 Click the ● button on the operation panel.

Normal recording starts.

Stopping normal recording

2 Click the ■ button on the operation panel.

Timer recording

Use the following procedure to automatically record monitored images in accordance with timer settings. Note that timer recording cannot operate during normal recording.

1 Set the conditions for timer recording using the "TIMER SET" screen. (→P.191)

2 Click the ◷ button on the operation panel.

The unit enters standby mode for timer recording, and recording then starts and stops automatically at the set times. The current status of timer recording is displayed on-screen with the message "TIMER STANDBY" or "TIMER RECORDING".

NOTE

- If "OLY AL-RC ON TMR" has been selected using the "ALARM REC MODE SET" menu item (→P.192), it is not necessary to click the ◷ button on the operation panel to set up standby mode.

3 To cancel timer recording, click the ◷ button on the operation panel while "TIMER STANDBY" is displayed.

Alarm recording

When an alarm is detected via the ALARM IN terminal or a motion sensor, the recording of alarm images starts automatically.
Use the alarm recording settings (→P.192) to activate alarm recording, or set the alarm recording not to be performed during timer recording.

1 Set the conditions for "ALARM RECORDING" using the "ALARM REC MODE SET" screen. (→P.192)

- Regardless of the unit's current operation or status, alarm recording starts automatically whenever an alarm is detected.
- When the duration set for alarm recording ends, alarm recording stops automatically.

NOTE

- Settings can be made to generate a buzzer sound on the PC when an alarm occurs on the digital video recorder. (→P.194)
- Click the ■ button on the PLAYBACK area on the operation panel to stop the alarm during alarm recording.

Pre-alarm recording

Use the following procedure to set pre-alarm recording to record video just before an alarm. Images can be viewed from just before an alarm when alarm recording is played back.

1 Set the conditions for "PRE-ALARM RECORDING" using the "ALARM REC MODE SET" screen. (→P.194)

- The newest images for the preset duration are automatically recorded and updated by overwriting.
- Pre-alarm recording is automatically terminated whenever alarm recording starts, and it is automatically restarted as alarm recording ends.

Monitored live images and recorded images can be viewed upon demand.
Note that switching to live or playback images, modifying the screen display and other similar operations have absolutely no effect on timer recording and alarm recording.

Switching to live images during playback

Click the ■ button on the PLAYBACK area on the operation panel. When playback finishes, the screen switches back to the display of monitored live images.

Playing back recorded images

The following two methods are available for the playback of images.

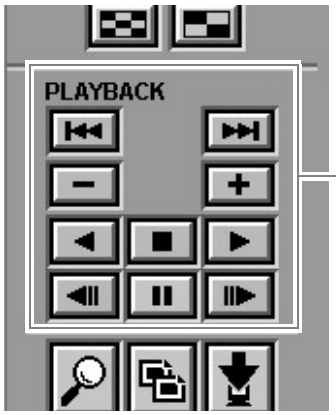
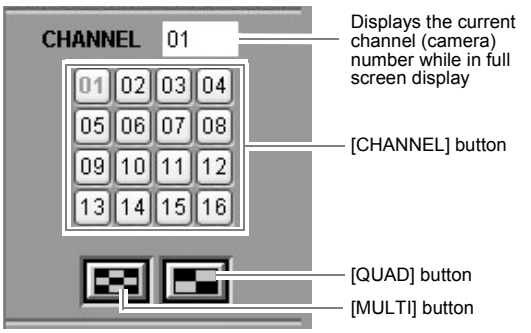


Image specification	Playback method
When no images are specified for playback	Click the ► button on the operation panel to switch to play mode and begin playback of images from the recording area in the order in which they were recorded. ● When recorded images are played back for the first time or when a reset is performed from the unit, playback starts from the beginning of the stored data. ● Any subsequent playback starts at the last stop point.
When images are specified for playback	● Use the search function to find the required images from the data stored in the recording areas of the hard disk. ● When the image for playback has been identified using search mode, the play mode screen is automatically displayed and the specified image is played (→P.175).

The various ways of displaying live images



Changing channels (cameras)

1 Click the [CHANNEL] button for the number to view.

The live image from the selected channel is displayed full screen.

Activating quad-screen display

1 Click the [QUAD] button.

Displays the images from channels (cameras) 1-4.
Continue to click the [QUAD] button to cycle to 5-8, 9-12, and 13-16.
On the DSR-5709P, the images change in order of 1-4, 5-8, 9-3, etc.

To activate full screen display, click on the image or click the [CHANNEL] button.

Activating 9/16 screen display

The DSR-5709P can only display video in nine screens.

1 Click the [MULTI] button.

Multi 16 screen display is activated and all camera images can be viewed.

2 Click the [MULTI] button again.

Multi 9 screen display is activated and the images from channels (cameras) 1-9 are displayed.

3 Click the [MULTI] button again.

Multi 16 screen display is restored.
To activate full screen display, click on the image or click the [CHANNEL] button.

NOTE

- Video from each screen of the multi-screen display is updated at a speed appropriate for its channel. The updating speed is affected by network conditions.

Performing operations in play mode

Use the buttons on the operation panel.

Playback

Click the ▶ button.

Adjusting the playback speed

During playback, click the + or − button.
+: Increases the playback speed.
−: Decreases the playback speed.

Reverse playback

Click the ◀ button.

Adjusting the reverse playback speed

During reverse playback, click the + or − button.
+: Increases the reverse playback speed.
−: Decreases the reverse playback speed.

Still image

During playback, click the ⏸ button.
Playback pauses on the current image.
To return to normal play mode, click the ⏸ button while playback is paused.

Frame advance (forward/reverse)

While playback is paused, click the ⏭ or ⏮ button.
⏭: Advances a frame in the forward direction.
⏮: Advances a frame in the reverse direction.

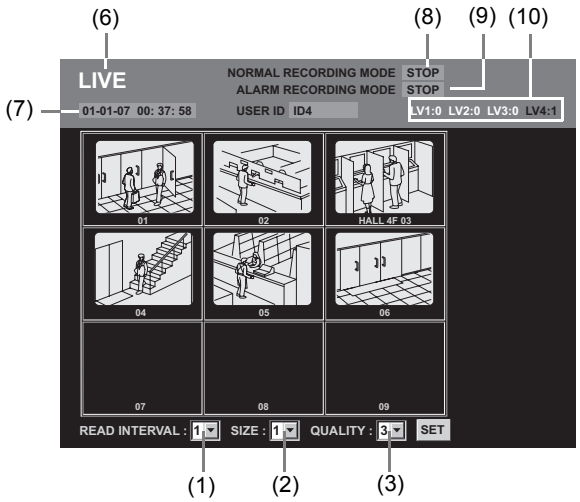
Alarm skip

During playback, click the ⏭ or ⏮ button.
The previous or next alarm image is displayed accordingly.
⏭: Skips to the next alarm video.
⏮: Skips to the previous alarm video.

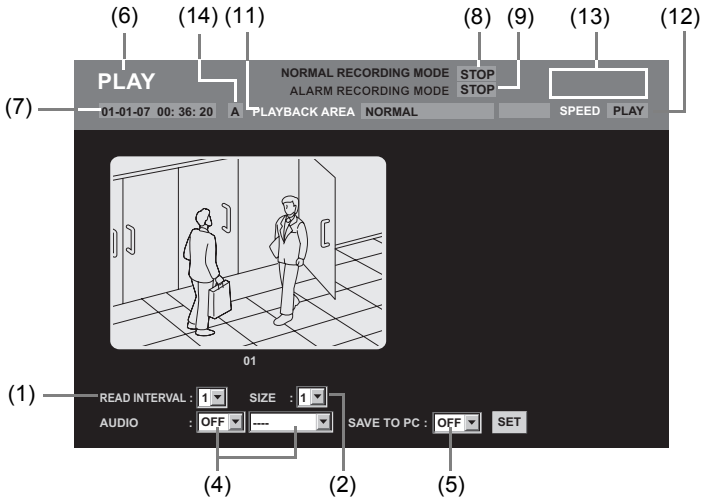
Stopping playback

During playback, click the ■ button.

Live mode image (multi-screen display)



Play mode image (full-screen display)



Adjusting the image and audio

Use the following procedures to adjust the images displayed on screen.
To make an adjustment, select the adjustment setting from the menu and then click [SET] from the pull-down menu on the screen.

(1) READ INTERVAL (Default setting: 1)
Select one of five image display speeds.
Larger setting numbers correspond to higher speeds; however, the actual speed depends on the speed of your network connection.

* When “(4) AUDIO” is set to “ON”, “READ INTERVAL” cannot be set.

(2) SIZE (Default setting: 1)
Select one of six image sizes.
Larger setting numbers correspond to larger image sizes.

[Settings] (◆ indicates default setting)

◆1	480 × 360	4	960 × 720
2	640 × 480	5	1120 × 840
3	800 × 600	6	1,280 × 960

* Size for full screen monitoring.

(3) QUALITY (Default setting: 3)
Four levels of picture quality can be set for live images (live mode only).
The recorded image is not displayed during playback.

[Settings] (◆ indicates default setting)

1	Lowest quality
2	Standard quality
◆3	Fine
4	Best quality

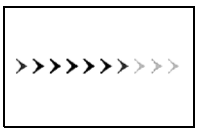
(4) AUDIO (Default setting: OFF)
Switches between ON and OFF for audio output.
Listen to the current audio from the device connected to the AUDIO IN terminal while displaying live image.
Play audio from the device connected to the AUDIO IN terminal at the time of recording while playing back a recorded image.

[Settings] (◆ indicates default setting)

Setting	Description
◆OFF	Does not output audio.
ON	Outputs audio.

If you set “ON” for “AUDIO”, then select audio delay (buffering time).
Audio data is loaded to the computer (buffered) for a given amount of time to ensure that there are no playback interruptions. The playback audio is delayed when compared with the originally recorded sound. The following set amounts of time indicate the delay.

[Settings] (◆ indicates default setting)

Setting	Description
◆5SEC 10SEC 15SEC 20SEC 30SEC Screen indicating the reading of audio data 	Set the audio delay (5, 10, 15, 20 or 30 seconds) to play audio. In Play mode, the speed of fast-forward and frame advance may be affected by the network environment being used. In addition, if the audio-data reading screen appears frequently, the audio delay (5, 10, 15, 20 or 30 seconds) should be lengthened to match the network environment. If this screen continues to appear frequently even when the delay time is 30 seconds, it indicates that audio playback is not possible with the network environment being used.

(5) SAVE TO PC (Default setting: OFF)
Set to “ON” to save live images or playback images to a PC.
* Set only for full screen monitoring.

CAUTION

- A user level 2 (LV2) or better is required to play back images.
- The user level required for saving images to a PC is set in the user ID and network control settings. (→P.197, 128)
- To be able to play back audio, install “DVR Viewer2” for storing and playing back audio (→P.211), and then set “AUDIO” to “ON”.
- Playback is performed with priority given to audio, and as a result, images may not be displayed for certain hardware and software configurations.
- Audio playback is not available for quad screen or multi screen (9/16 screen) display.
- Due to certain PC performance levels and specifications, a portion of the video may not be displayed. In this case, go to [Tools]→[Internet Options]→[Temporary Internet Files]→[Settings] in Internet Explorer, and then reduce [Amount of disk space to use].
- When playing back a recorded image that does not have audio with “AUDIO” set to “ON”, the digital video recorder begins buffering data and the status appears on the screen. In this case, set “AUDIO” to “OFF”.
- When short recordings are repeated, the digital video recorder begins buffering data and continues to display that status. In this case, set “AUDIO” to “OFF”.

Screen display items

(6) Image mode
LIVE: Live mode
PLAY: Play mode

(7) Time
Live mode: Displays the current time.
Play mode: Displays the recording time.

(8) NORMAL RECORDING MODE
Displays the current status for normal recording.
- STOP
- RECORDING
- TIMER STANDBY
- TIMER RECORDING
- AREA FULL (in recording area)

(9) ALARM RECORDING MODE
Displays the current status for alarm recording.
- STOP
- PRE ALARM RECORDING
- ALARM RECORDING
- AREA FULL (When recording area is full or automatic alarm copying is being performed and the archive area becomes full, “AREA FULL” is displayed.)

(10) Connection user
Displays the connection status for the various user levels when a number of different users are connected.
Example: LV1: 4 LV2: 1 LV3: 1 LV4: 0
The user ID for the current user is displayed in red.

(11) PLAYBACK AREA (in the play mode screen only)
The type of recording is displayed for the playback image.
- ALARM (with alarm number displayed)
- PRE ALARM (with alarm number displayed)
- NORMAL
- ARCHIVE (with alarm number displayed)

(12) SPEED (in the play mode screen only)
Displays the playback speed and direction.

Display	Playback direction	Playback speed
PLAY	Forward	Normal
STILL	Paused	Paused
R.PLAY	Reverse	Normal
CUE	Forward	Fast-forward playback
REVIEW	Reverse	Fast-rewind playback
SLOW	Forward	Slow playback
R.SLOW	Reverse	Slow reverse playback

(13) Load status of external expansion units
When video recorded by an expansion unit (S-ATA) or RAID unit is played back via network, the operating conditions and load status of other individual users are displayed:

: Playing back with the digital video recorder.

: Playing back through network.

The color changes according to the load: blue (normal) → yellow (caution) → red (warning).

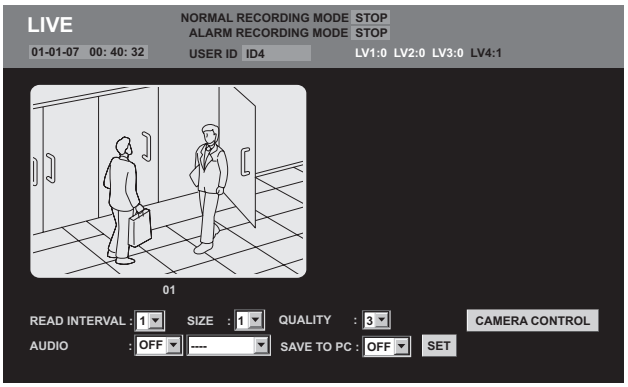
(14) Audio recording display (for playback mode screen only)
The letter “A” is displayed when playback video is accompanied by audio data.

Downloading live images to a PC

CAUTION

- To download video with audio to a PC, DVR Viewer2 must be installed before the necessary settings can be made. (→P.211)
- The user level required for downloading images is set in the user ID and network control settings. (→P.197, 128)

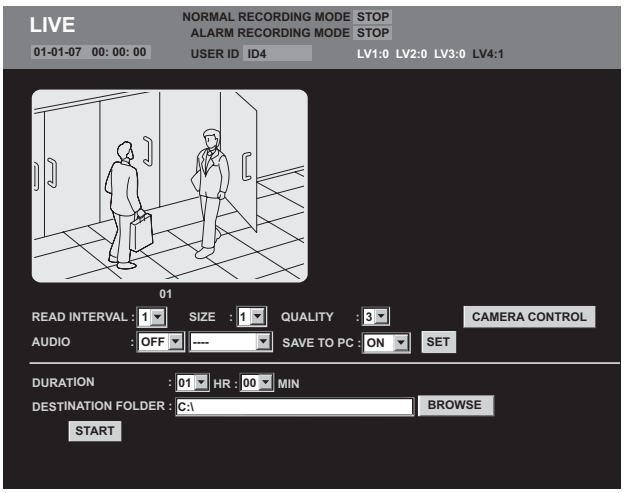
1 Displays live image for users with download authorization.



2 Set “SAVE TO PC” to “ON”.

3 Click [SET].

The save setting items are displayed.

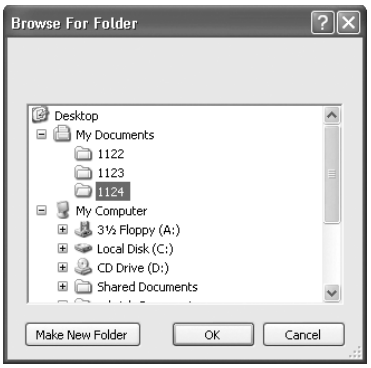


4 Set “DURATION”.

Use units of one hour and one minute to set the image duration to save to PC.

5 Click [BROWSE].

A dialog box for selecting the save location is displayed.
Select a suitable save location.



NOTE

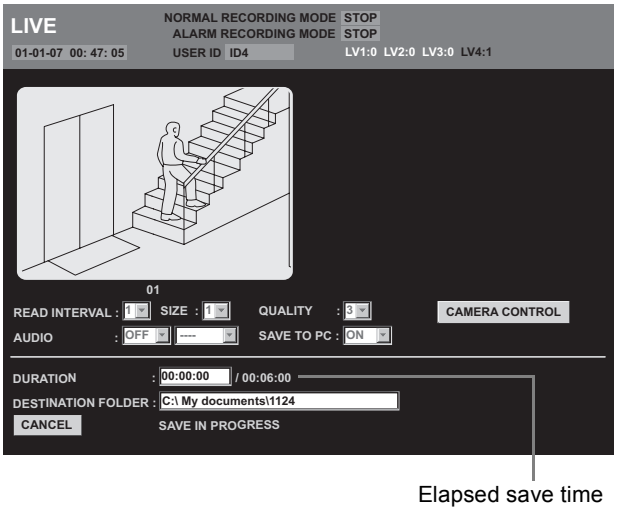
- Alternatively, enter the path directly into “DESTINATION FOLDER”.

6 Enter the save location and click the [OK] button.

The setting menu closes and the screen returns to the display for step 3 above.
The “DESTINATION FOLDER” location is displayed.

7 Click [START].

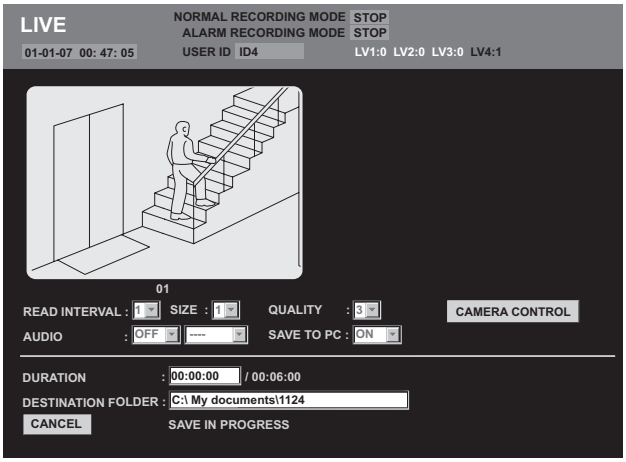
The saving process begins and the elapsed save time and saving screen are displayed.
The elapsed save time is incremented as the save process progresses.



Elapsed save time

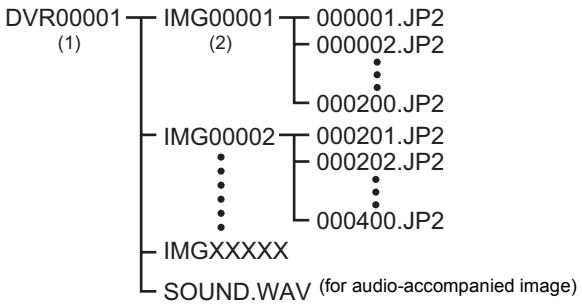
■ To cancel a save operation

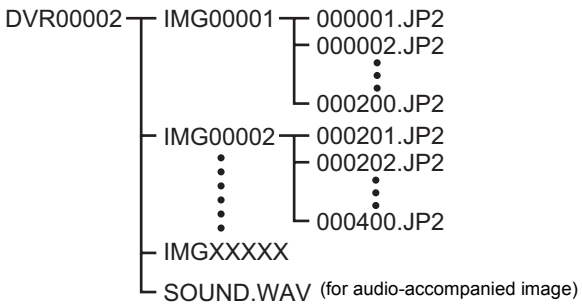
Click [CANCEL].



8 When saving is completed, click [OK] on the pop-up window.

The final still image from the save process is displayed.
The setting menu closes and the screen returns to the display for step 2 above.
Folders, as shown below, are created within the folder set in step 5, and within these folders, images are stored with numbers assigned automatically.





(1) The folder “DVR00001” is created.
(2) Within this folder, folders are created in order beginning with “IMG00001”. Images are stored in each folder.

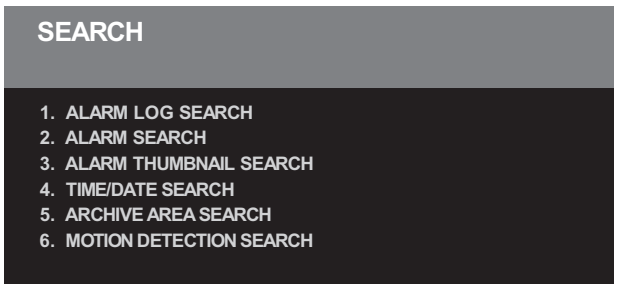
3 SEARCHING FOR RECORDED VIDEO

Recorded video can be searched and played back using any of six search modes.

Basic operation

1 In live mode (when playback is stopped), click the button on the operation panel.

The “SEARCH” screen is displayed.



2 Select and click the desired search mode from the “SEARCH” screen.

The screen for the selected search mode is displayed.

3 Search for video using the search mode screen.

See the following pages for more details regarding the different search procedures.

4 Check the returned video using the preview or thumbnail display and then click the screen.

Play mode is activated and playback of the full video starts. Still image, fast-forward and other similar operations can be performed during playback. (→P.170)

Search menu

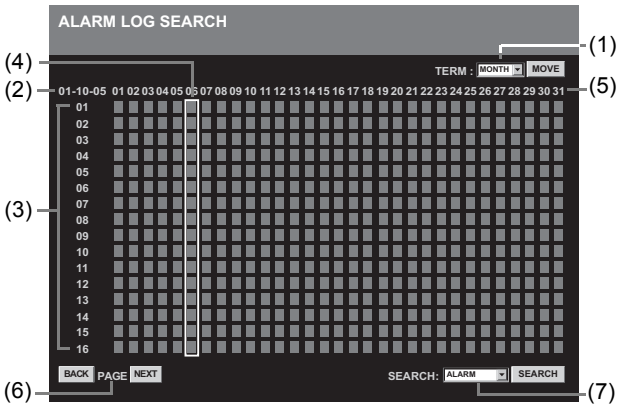
	Search mode	Type of recording searched	Description
1	ALARM LOG SEARCH	Alarm recording	Search for alarm video by specifying the date/time. When the search is completed, images can be selected from ALARM SEARCH or ALARM THUMBNAIL SEARCH and displayed in a list or as thumbnails.
2	ALARM SEARCH	Alarm recording	Search and play back alarm images from the alarm event list.
3	ALARM THUMBNAIL SEARCH	Alarm recording	Search and play back alarm images using thumbnails (small images).
4	TIME/DATE SEARCH	Normal recording and alarm recording	Search and play back recorded images by date and time.
5	ARCHIVE AREA SEARCH	Archive area	Search and play back images stored (or copied) to the archive area using an image list.
6	MOTION DETECTION SEARCH	Normal recording and alarm recording	Search and play back recorded images of moving objects detected in accordance with motion sensor settings.

NOTE

- It may take more than one minute to search video depending on the size of the hard disk and/or stored data.

1. ALARM LOG SEARCH

Use the following procedure to perform an alarm search or alarm thumbnail search by defining the period (month, week, day or time) of the alarm video.



(1) TERM: Period
(2) Date/time
(3) Channel number
(4) Selected type of recording searched
(5) When “MONTH” is specified in “TERM”: Day
When “WEEK” is specified in “TERM”: Day of the week
When “DAY” is specified in “TERM”: Hour
When “HOUR” is specified in “TERM”: Minute
(6) PAGE: The month (week/day/time), along with previous and next entries are displayed
(7) SEARCH: Search mode

1 Click “1. ALARM LOG SEARCH” on the “SEARCH” screen.

The “ALARM LOG SEARCH” screen is displayed.

2 Set a time period for “TERM” and click the [MOVE] button.

[Settings] (◆ indicates default setting)

Setting	Description
◆MONTH	Displays one month.
WEEK	Displays one week.
DAY	Displays one day.
HOUR	Displays one hour.

3 Set the date and time.

Click the frame of the alarm recording search date.

NOTE

- If “MONTH” is selected in step 2 above, each frame represents one day. If “WEEK” is selected, four frames represent one day. If “DAY” is selected, each frame represents one hour. If “HOUR” is selected, each frame represents two minutes.
- Click the [BACK] or [NEXT] button to shift the display one page.

A search is started, and when it is finished the frame color changes in the following fashion.
Black: No recordings
Red: Alarm recording

4 Set “SEARCH” to the desired search mode.

[Settings] (◆ indicates default setting)

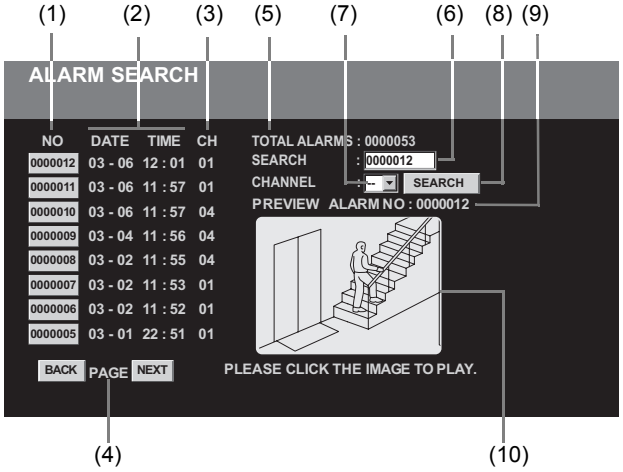
Setting	Description
◆ALARM	The “ALARM SEARCH” screen (→P.177) is displayed and the search results are displayed in a list.
THUMBNAIL	The “ALARM THUMBNAIL SEARCH” screen (→P.177) is displayed and the search results are displayed using thumbnails.

Perform ALARM SEARCH (→P.177) or ALARM THUMBNAIL SEARCH (→P.177).

5 Click the [SEARCH] button.

2. ALARM SEARCH

Images recorded as alarm recordings are displayed in a list by alarm numbers.
Accordingly, alarm images from the recording list can be searched and played back.



(1) NO: Alarm number. Click to display preview
(2) DATE/TIME: The alarm recording date
(3) CH: The alarm recording camera number
(4) PAGE: Display of the previous and next list from the top list
(5) TOTAL ALARMS: The total number of alarm recordings
(6) SEARCH: Enter alarm number to display as list
(7) CHANNEL: Enter camera number to display as list
(8) [SEARCH] button: Search using the conditions from (6) and (7); display as list
(9) PREVIEW ALARM NO: Current alarm number being previewed
(10) Preview image: Click to start playback

1 Click “2. ALARM SEARCH” on the “SEARCH” screen.

An alarm event list is displayed in the “ALARM SEARCH” screen with newer recordings displayed first.

2 Select the alarm number of the image to be played back from the alarm event list.

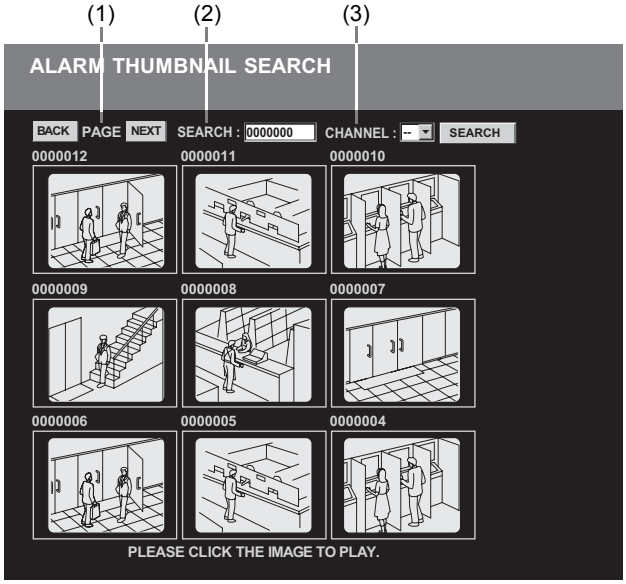
- Clicking an alarm No. button displays a preview of the corresponding alarm image.
- A maximum of eight alarm events can be displayed.
- Click [BACK] or [NEXT] to display the alarm event list for the previous or subsequent eight events accordingly.
- Setting the alarm number for “SEARCH” displays a new list with the corresponding image displayed first.
- Setting the camera number for “CHANNEL” displays camera images as a list in order of recording date.

3 Click the preview screen to play back the image.

Full-screen playback starts from the point at which the alarm was triggered.

3. ALARM THUMBNAIL SEARCH

All of the alarm images stored in the alarm recording area are displayed as thumbnails (small images). Accordingly, you can search and play back alarm images using their thumbnails.



(1) PAGE: Displays the previous and next 9 thumbnails
(2) SEARCH: Search by the alarm number
(3) CHANNEL: Search by the camera number

1 Click “3. ALARM THUMBNAIL SEARCH” on the “SEARCH” screen.

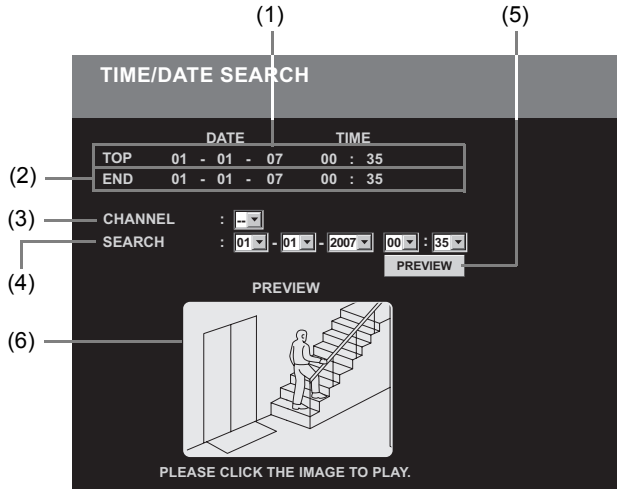
- The newest alarm images with alarm numbers are displayed in chronological order on the “ALARM THUMBNAIL SEARCH” screen.
- A maximum of nine alarm events can be displayed as thumbnails on a single screen.
- Click [BACK] or [NEXT] to display the thumbnail screen for the previous or subsequent nine events accordingly.
- Setting the alarm number for “SEARCH” displays a new list with the corresponding image displayed first.
- Setting the camera number for “CHANNEL” displays a new list with the corresponding image displayed first.

2 Click the thumbnail for the image to be played back.

Full-screen playback starts from the point at which the alarm was triggered.

4. TIME/DATE SEARCH

Use the following procedure to specify the recorded date and time and play back the images.



(1) RECORDING TOP: Displays the date and time of the oldest recording
(2) RECORDING END: Displays the date and time of the newest recording
(3) CHANNEL: Displays the camera number
(4) SEARCH: Set the recorded date and time of the image to be played back
(5) [PREVIEW]: Preview display button
(6) PREVIEW: Displays a preview of the image corresponding to the specified date and time

1 Click “4. TIME/DATE SEARCH” on the “SEARCH” screen.

The “TIME/DATE SEARCH” screen is displayed.

2 Specify the camera number from the “CHANNEL” pull-down menu.

3 Specify the recorded date and time of the image to be played back from the “SEARCH” pull-down menu.

4 Click [PREVIEW].

When the search is completed, the image corresponding to the specified date and time is played back.

NOTE

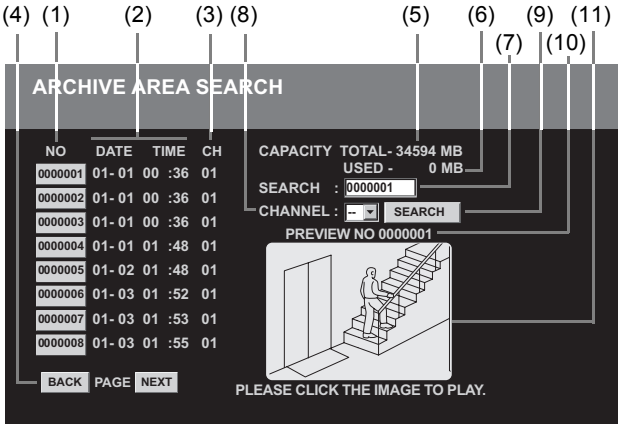
- If no image exists for the specified date and time, the image with the nearest recording date and time is displayed.

5 Click the preview screen to play back the image.

Full-screen playback starts.

5. ARCHIVE AREA SEARCH

Use the following procedure to search and play back recorded images stored (or copied) to the archive area.



(1) NO: Number. Click to display preview
(2) DATE/TIME: The recording date
(3) CH: The recording camera number
(4) PAGE: Display of the previous and next list from the top list
(5) CAPACITY: Total archive area capacity
(6) CAPACITY: Used archive area capacity
(7) SEARCH: Enter number to display as list
(8) CHANNEL: Enter camera number to display as list
(9) [SEARCH] button: Search using the conditions from (7) and (8); display as list
(10) PREVIEW NO: Current number being previewed
(11) Preview image: Click to start playback

1 Click “5. ARCHIVE AREA SEARCH” on the “SEARCH” screen.

The “ARCHIVE AREA SEARCH” screen is displayed.
This screen contains a list of stored images displayed in order from the earliest item.

2 Select the archive number of the image to be played back from the stored image list.

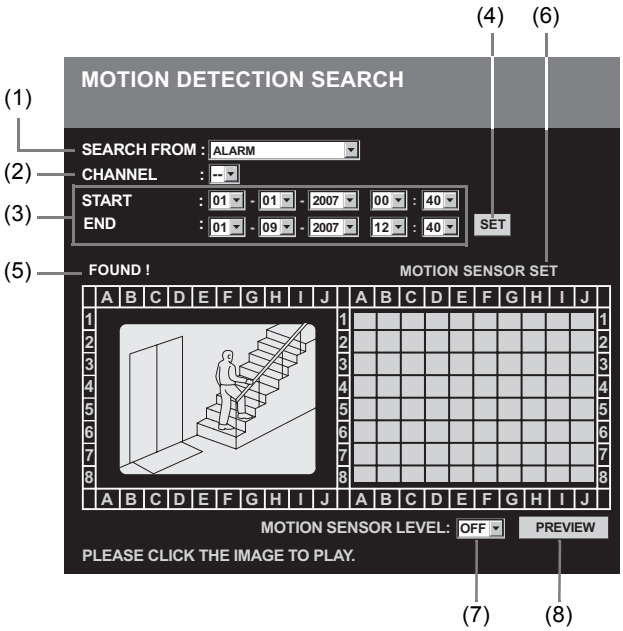
- A preview of the corresponding stored image is displayed.
- A maximum of eight stored images can be displayed.
- Click [BACK] or [NEXT] to display the image list for the previous or subsequent eight images accordingly.
- Setting the archive number for “SEARCH” displays a list with the oldest corresponding image displayed first.
- Setting the camera number for “CHANNEL” displays a list with the oldest corresponding image displayed first.

3 Click the preview screen to play back the image.

Full-screen playback starts.

6. MOTION DETECTION SEARCH

Use the following procedure to detect variations from recorded images, using the motion sensor, as a result of the presence of an intruder or the like, and to play back the corresponding images.



(1) SEARCH FROM
Recording area to be used for motion detection searching

(2) CHANNEL
Channel or camera number to be used for motion detection searching

(3) START/END
Date and time of the start and end of the area for motion detection searching

(4) [SET] button
Detection condition settings

(5) Message box
Displays the results of searching for motion detection images.

When searching	"SEARCHING"
When motion-detection images exist	"FOUND !"
When motion-detection images do not exist	"IMAGES NOT FOUND !"

(6) MOTION SENSOR SET
Screen for making motion sensor settings

(7) MOTION SENSOR LEVEL
Motion sensor sensitivity setting: OFF or 1 through 10 (Lower numbers correspond to higher levels of sensitivity.)

(8) [PREVIEW] button
Displays a preview of the motion detection image.

1 Click "6. MOTION DETECTION SEARCH" on the "SEARCH" screen.

The "MOTION DETECTION SEARCH" screen is displayed.

2 Specify the search area from the "SEARCH FROM" pull-down menu.

[Settings] (◆ indicates default setting)

Setting	Description
◆ALARM	Searches only for alarm recording images.
NORMAL	Searches only for normal recording images.
ALARM AND NORMAL	Searches for alarm recording and normal recording images.
ARCHIVE*1	Searches only for archive images.

*1 "ARCHIVE" can only be selected when "MODE" in "ARCHIVE AREA" in the <RECORDING CONDITIONS SET> screen is set to "AUTO ALARM COPY". (→P.86)

3 Specify the camera number for detection from the "CHANNEL" pull-down menu.

4 Click [SET].

The date and time of the start and end of recording of motion detection images are displayed in "START" and "END" respectively.

NOTE

- Use "START" and "END" to refine the search range by making date and time settings.
- The search results are displayed in a message box when [SET] is clicked.

5 Set motion sensor detection conditions.

- **Motion sensor positions**
  The motion sensor setting screen displays an 8 x 10 (height x width) grid of sensors. When one of these sensors is clicked, the corresponding sensor setting mark changes to red. If the same location in the grid is clicked again, the motion sensor is deselected.
- **Motion sensor sensitivity**
  Select the sensitivity from the pull-down menu. Lower numbers correspond to higher levels of sensitivity.

6 Click [PREVIEW].

A search is performed within the specified area for images in which the motion sensor detected motion, and these images are then listed in recording order on the preview screen.

7 Click the preview screen to play back the image.

Full-screen playback starts.
Playback is performed in multiple screens, if no camera number is specified.

4 SAVING (COPYING) RECORDED VIDEO

Use the following procedures to copy recorded images to the archive area on the hard disk or to download images to a PC or the like.
These functions can be used to save important images from the recording areas.

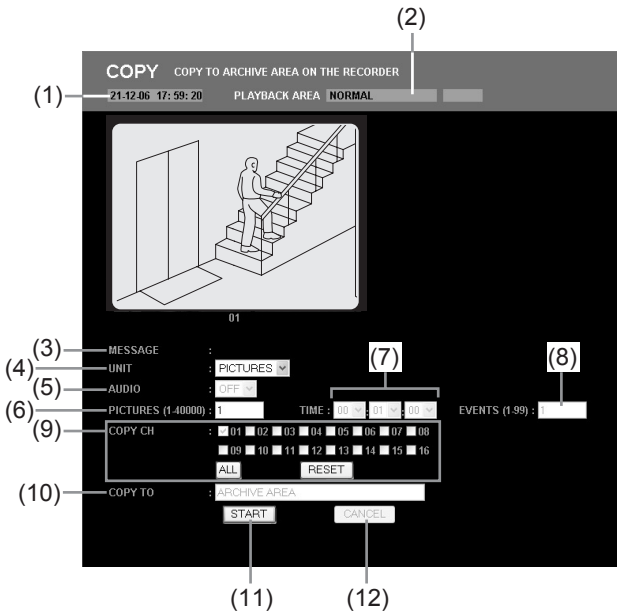
CAUTION

- In certain cases where network-busy is detected as a result of the operating environment, the network may be forcibly disconnected in order to protect DVR recording operations. Furthermore, the network is forcibly disconnected in response to commands to send a large amount of data in a single operation (in particular, when 100 images or more are to be saved), and in this case, the number of images should be limited based on the hardware configuration in question.
- When the archive area becomes full of images, download these images to a USB memory or other storage media and click [AREA FULL RESET] from the recording area settings on the “MAIN MENU”. (→P.187)
- Can only save in full screen display. Cannot save for quad-screen or multi screen display.

NOTE

- Copied data is stored one image at a time. Moving images can be copied by setting the number of images required from the first copied image.

Copying to the archive area



(1) Recording date and time of the video that is being played back.
(2) PLAYBACK AREA: Type of video recording that is being played back.
● ALARM ● PRE ALARM ● NORMAL ● ARCHIVE
(3) MESSAGE: Displays a message when starting copy. (Example: PLEASE WAIT!)
(4) UNIT: Select a method to specify the copy range (number of pictures, time and events).
(5) AUDIO: Specify whether or not to copy audio.
(6) PICTURES (1-40000): Specify the number of sheets when “PICTURES” is specified in “UNIT”.
(7) TIME: Specify hours, minutes and seconds when “TIME” is specified in “UNIT”.
(8) EVNETS: Enter the number of events when “EVENT” is specified in “UNIT”.
(9) COPY CH: Select a channel to copy.
(10) COPY TO: Fixed to “ARCHIVE AREA” (not selectable).
(11) [START] button: Starts copying.
(12) [CANCEL] button: Aborts copy.

1 Play back video stored in the recording area.

2 Click the ⏸ button on the control panel at the start of the video being copied.

Video stops to provide a still picture.

3 Click the button on the control panel.

The “COPY” screen is displayed.

4 Specify a value for “UNIT”.

[Settings] (◆ indicates default setting)

Setting	Description
◆PICTURES	Specifies the copy range as the number of pictures.
TIME	Specifies the copy range as time (hours/minutes/seconds).
EVENTS	Specifies the copy range as the number of events.

NOTE

- An event means a continuous record (or a recording unit set by “DURATION” for the alarm recording).
- You can select “EVENTS” only when copying alarm recording video.

5 Specify for “AUDIO”.

[Settings] (◆ indicates default setting)

Setting	Description
◆ON	Also copies audio.
OFF	Does not copy audio.

6 Specify copy range as numeric values according to the “UNIT” settings.

[Settings]

Setting	Description
PICTURES	Enter the number of images to be copied starting from the current still picture.
TIME	Specify the timeframe (hours/minutes/seconds) starting from the current still picture.
EVENTS	Specify the number of events starting from the current display (setting range: 1 to 99).

7 Specify “COPY CH”.

Check the channel(s) you want to copy. You can specify multiple channels.

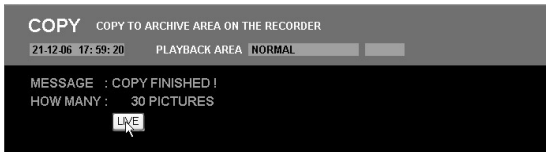
- ALL: Check all the channels.
- RESET: Uncheck all the channels.

NOTE

- The channel(s) that is currently displaying video is automatically checked. It cannot be unchecked.

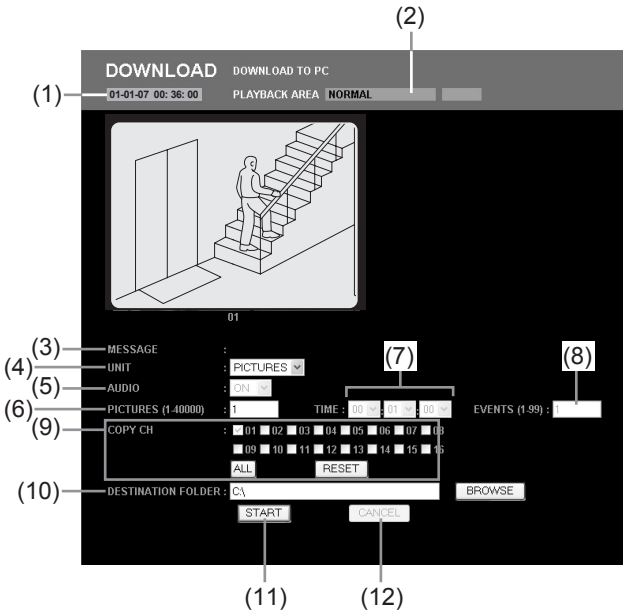
8 Click the [START] button.

Copying starts.
Once copy is completed, the result of copy is displayed in a dialog box. To return to live display, click the [LIVE] button in the dialog box.



Downloading to a PC

Use the following procedure to download recorded images to a PC.



(1) The recording date and time for the image currently being played back
(2) PLAYBACK AREA: The type of recording for the image currently being played back.
● ALARM ● PRE ALARM ● NORMAL ● ARCHIVE
(3) MESSAGE: Displays the message displayed when download starts (example: PLEASE WAIT!).
(4) UNIT: Select the method for specifying the copy range (number of copies / time / number of events).
(5) AUDIO: Select whether or not to download audio.
(6) PICTURES (1-40000): Enter number of images when “PICTURES” is specified in “UNIT”.
(7) TIME: Enter time (hrs/min/sec) when “TIME” is specified in “UNIT”.
(8) EVENTS: Specify the number of events, when “EVENT” is specified for “UNIT”.
(9) COPY CH: Select the channel(s) to copy.
(10) DESTINATION FOLDER: Specify the save destination folder.
(11) [START]: Downloading begins.
(12) [CANCEL]: Downloading stops.

1 Play a recorded image.

2 Click the ⏸ button on the operation panel at the start of the image to be downloaded.

Playback of the image is paused.

3 Click the ⬇ button on the operation panel.

The “DOWNLOAD” screen is displayed. (Refer to the screen above.)

4 Set “UNIT”.

[Settings] (◆ indicates default setting)

Setting	Description
◆PICTURES	Specify the number of images for download number
TIME	Specify the time (hrs/min/sec) for download number
EVENTS	Specify the download range as the number of events.

NOTE

- An event means a continuous record (or a recording unit set by “DURATION” for the alarm recording).
- You can select “EVENTS” only when copying video stored in the archive area or alarm recording video.

5 Set “AUDIO”.

[Settings] (◆ indicates default setting)

Setting	Description
◆ON	Also download audio.
OFF	Do not download audio.

6 Specify download range with numeric values depending on settings for “UNIT”.

[Settings]

Setting	Description
PICTURES	Enter the number of images to be downloaded starting from the current still picture.
TIME	Specify the timeframe (hours/minutes/seconds) starting from the current still picture. (You can specify up to 99 hours, 59 minutes and 59seconds, but can not download more than 250,000 images.)
EVENTS	Specify the number of events starting from the current display (setting range: 1 to 99).

7 Specify “COPY CH”.

Check a channel you want to download. You can specify multiple channels.

- ALL: Check all the channels.
- RESET: Uncheck all the channels.

NOTE

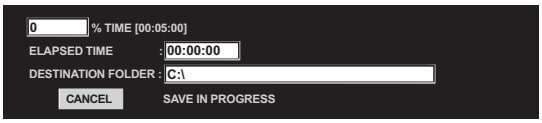
- The channel that is displaying video is automatically checked. You can not uncheck them.

8 Set “DESTINATION FOLDER”.

Enter the path to the save destination folder.
Click [BROWSE] to select from the folder tree.

9 Click [START].

Starts downloading.
The following message is displayed below the image when downloading.

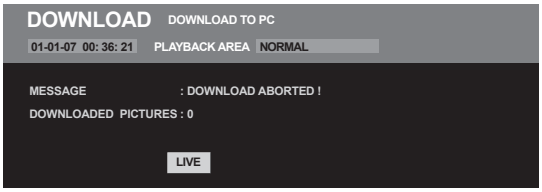


* The above screen is when “TIME” is set.

%	Display the download amount in %
ELAPSED TIME	Display the download time
DESTINATION FOLDER	Display the path to the save destination folder
CANCEL	Stop downloading.

10 When download is completed:

The result of download is displayed in the dialog box. To return to live display, click the [LIVE] button in the dialog box.

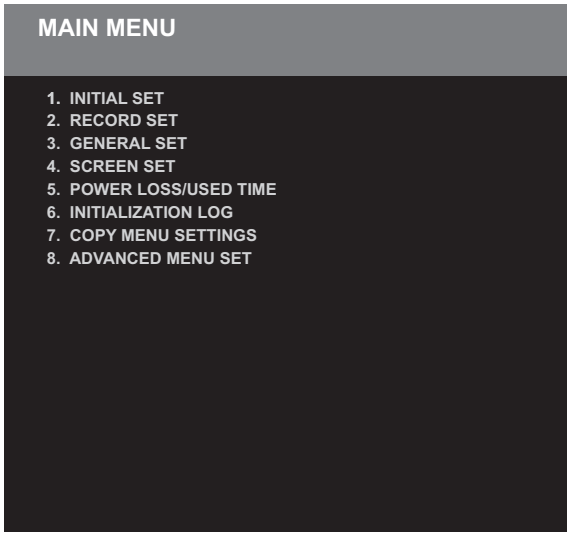


Before using the digital video recorder, settings should be made for recording conditions, installation environment and other similar factors. The corresponding menu items are displayed in a three-level structure comprising main menus, sub-menus and setting screens. (→P.184)

Making menu selections

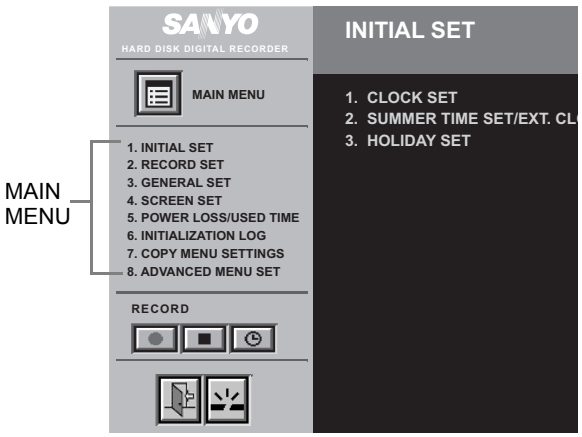
1 Click the button on the operation panel.

The “MAIN MENU” is displayed.



2 Click a menu on the “MAIN MENU”.

The corresponding sub-menu appears.
The main menu is displayed on the operation panel.
Example: Click “1. INITIAL SET”.

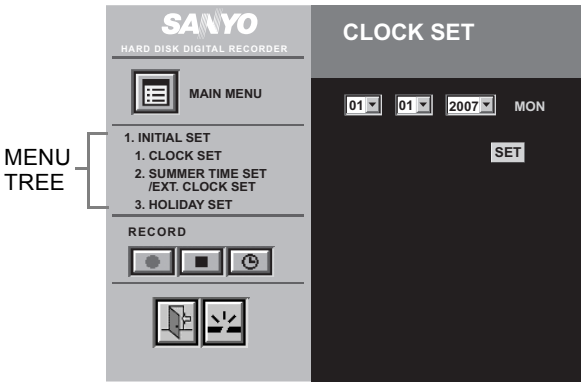


NOTE

- Click a menu on the operation panel to display a different sub-menu.

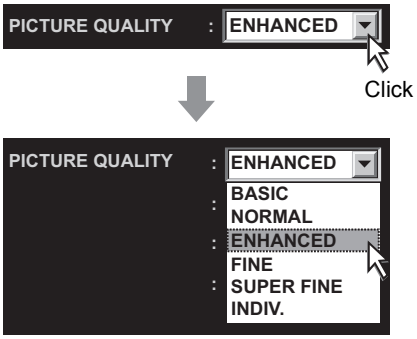
3 Click a sub-menu.

The setting screen is displayed.
A menu tree is displayed on the operation panel to show the menu hierarchy.
Example: Click “1. CLOCK SET”.



NOTE

- Click a menu on the operation panel to display the sub-menu and a different setting screen.
- Pull-down menus



When a pull-down menu is clicked, a list of available selections is displayed.
Select the required value.

4 Make the required settings.

5 Click the button on the operation panel.

The setting procedure is ended and the display returns to the normal screen (monitoring image).

NOTE

- Menu screens are not displayed during playback. To display a menu, stop playback, return to live mode and then click the button on the operation panel.
- You must be connected with user level 4 (LV4) to modify settings.
- It is not possible to modify settings when the unit is recording.

Menu structure

Main menu	Sub menu	Setting items	Reference page
1. INITIAL SET	1. CLOCK SET	● CLOCK SET	P.185
	2. SUMMER TIME SET/ EXT.CLOCK SET	● SUMMER TIME SET ● EXT.CLOCK SET	P.185
	3. HOLIDAY SET	● HOLIDAY SET	P.186
2. RECORD SET	1. RECORDING AREA SET	● TOTAL CAPACITY ● INTERNAL HDD ● EXTERNAL HDD ● RECORDING AREA (AREA FULL RESET) ● ARCHIVE AREA (AREA FULL RESET)	P.187
	2. RECORDING CONDITIONS SET	● RECORDING AREA OVERWRITE ● ARCHIVE AREA MODE ● REMAINING DISK WARNING ● AUTO DELETE	P.188
	3. NORMAL REC MODE SET	● PICTURE QUALITY ● AUDIO RECORDING ● REC RATE ● REC PROGRAM GROUP	P.189
	4. PROGRAM REC SET	● PROGRAM ● SELECT INDIVIDUAL CAMERA RATE (FPS) ● NORMAL REC	P.190
	5. TIMER SET	● WEEK ● START ● STOP ● PROGRAM ● FPS ● SET	P.191
	6. ALARM REC MODE SET	● ALARM RECORDING ● PICTURE QUALITY ● AUDIO RECORDING ● ALARM INTERLEAVE (REC RATE, DURATION) ● PRE- ALARM RECORDING (REC RATE, DURATION) ● ALARM TRIGGER	P.192
3. GENERAL SET	1. DISPLAY SET	● DATE ● TIME ● QUALITY ● AUDIO ● ALARM COUNT ● ALARM TYPE ● TITLE	P.195
	2. BUZZER SET	● ALARM ● DISK FULL ● DISK ERROR ● LOCK WARNING ● KEY IN ● NON REC ● DISK TEMPERATURE	P.195
	3. SECURITY LOCK SET	● LOCK MODE ● FREE ACCESS LEVEL ● OPERATION AUTHORITY ● COPY ● CAMERA CONTROL	P.196
	4. USER ID SET	● USER ID ● PASSWORD ● LV	P.197
	5. RS-485 SET	● DATA SPEED ● STATUS INFO ● ALARM INFO ● ADDRESS	P.198
	6. HDD SET	● DISK1 ● DISK2 ● EX-DISK1 ● EX-DISK2 ● EX-DISK3 ● EX-DISK4 ● MIRRORING ● PLAYBACK DRIVE	P.198
	7. NETWORK SET	● DHCP ● IP ADDRESS ● SUBNET MASK ● GATEWAY ● PORT ● NETWORK SPEED ● DNS SERVER (PRIMARY, SECONDARY) ● HOST NAME ● DOMAIN SUFFIX ● MTU SIZE ● MAC ADDRESS	P.199
	8. NETWORK CONTROL SET	● NETWORK CONTROL ● NETWORK STATUS ● PICTURE QUARITY ● OPERATION AUTHORITY ● COPY/DOWNLOAD ● CAMERA CONTROL	P.200
4. SCREEN SET	1. SEQUENCE SET	● FULL ● QUAD ● MAIN/MON.2 MONITOR SET ● TIME PERIOD ● CH ● MAIN MONITOR ● MON.2	P.202
	2. MASK SET	● MASK ● TIME PERIOD ●CH ●MAIN MONITOR ●MON.2 ●NETWORK	P.203
5. POWER LOSS/ USED TIME		● POWER ● LOSS ● RECOVER ● INTERNAL HDD ● EXTERNAL HDD ● FIRMWARE VER	P.204
6. INITIALIZATION LOG		● DATE ● TIME ● AREA ACTION ● USER ID	P.205
7. COPY MENU SETTNGS		● DVR TYPE VER. ● SAVE MENUS TO PC ● LOAD MENUS FROM PC (LOAD FILE, COPY USER ID SETTINGS, COPY RECORDING AREA SETTINGS, COPY NETWORK SETTINGS)	P.206
8. ADVANCED MENU SET	1. ALARM NOTICE SET	● ALARM NOTICE ● SSL ● SMTP SERVER ADDRESS ● PORT ● USER MAIL ADDRESS ● SEND MAIL ADDRESS ● USE ● MAIL ADDRESS ● IMAGE ● WARNING ● SUBJECT ● AUTHENTICATION ● POP3 SERVER ADDRESS ● PORT ● USER ID ● PASSWORD	P.207
	2. CAMERA CONTROL SET	● CH ● PROTOCOL ● ADD. ● 2ND RS-485/422 PROTOCOL	P.209
	3. TIME ZONE/NTP SET	● TIME ZONE ● SYNC.WITH NTP SERVER ● NTP SERVER ADDRESS ● TIME TO SYNCHRONIZE ● RENEWAL OF MANUAL OPERATION	P.210

* ▭ indicates the display of information only.

1. CLOCK SET

Use the following procedure to set the time and date of the digital video recorder. Be sure that the date and time are set correctly at this time.

1 Click the button on the operation panel.

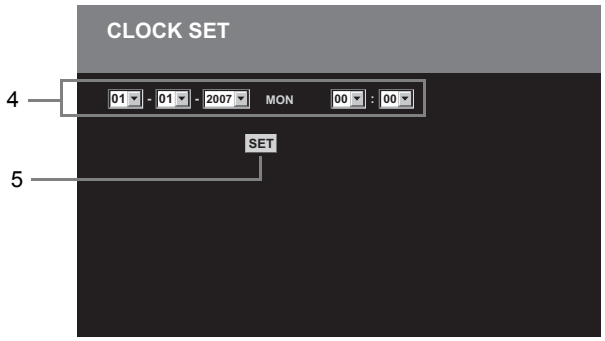
The “MAIN MENU” is displayed.

2 Click “1. INITIAL SET”.

The “INITIAL SET” screen is displayed.

3 Click “1. CLOCK SET”.

The “CLOCK SET” screen is displayed.



4 Set the month, day, year and time.

The day of the week is set automatically based on the date.

5 Click [SET].

The clock is set.

CAUTION

- Recording mode may not operate if the clock is not set. In this case, when the button or button is clicked, the warning message “PLEASE SET THE CLOCK” is displayed.

2. SUMMER TIME SET/EXT. CLOCK SET

Setting the summer time

1 Click the button on the operation panel.

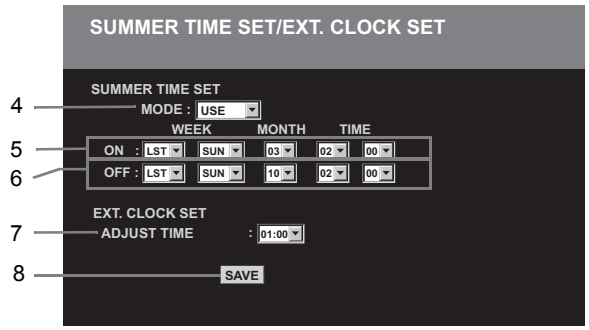
The “MAIN MENU” is displayed.

2 Click “1. INITIAL SET”.

The “INITIAL SET” screen is displayed.

3 Click “2. SUMMER TIME SET/EXT. CLOCK SET”.

The “SUMMER TIME SET/EXT. CLOCK SET” screen is displayed.



4 Set “MODE” to “USE”.

[Settings] (◆ indicates default setting)

Setting	Description
NO USE	Time is not automatically adjusted to summer time.
◆USE	Time is automatically adjusted to summer time.

5 For “ON”, set the date/time at which to switch from standard time to summer time.

6 For “OFF”, set the date/time at which to switch from summer time to standard time.

Setting the external clock

Synchronized operations cannot be performed when the clocks on the digital video recorder and the connected peripheral devices differ. By setting the external clock as described here, all devices connected to the clock adjust terminal can be synchronized to the same time.

7 For “ADJUST TIME”, set the time at which the clocks are to be synchronized.

When time signal is input through the “CLOCK IN” terminal on the rear panel, the internal clock of the digital video recorder is automatically adjusted according to the time signal.

CAUTION

- If you use this function, connect the digital video recorder to an external device that provides accurate time signal.
- If the time between the input time from the external signal and the time set on the digital video recorder is 30 minutes or longer, time adjustment does not take place.
- If you do not use this function, leave the initial setting (OFF) unchanged to prevent malfunction.

8 Click [SAVE].

The setting is saved.

3. HOLIDAY SET

Use the following procedure to set specific days as holidays. When a day is specified as a holiday, timer recording for that day is performed as if it were a Sunday.
Dates such as national holidays and company holidays can be set as holidays when you want those dates to have the same security as Sundays.

1 Click the button on the operation panel.

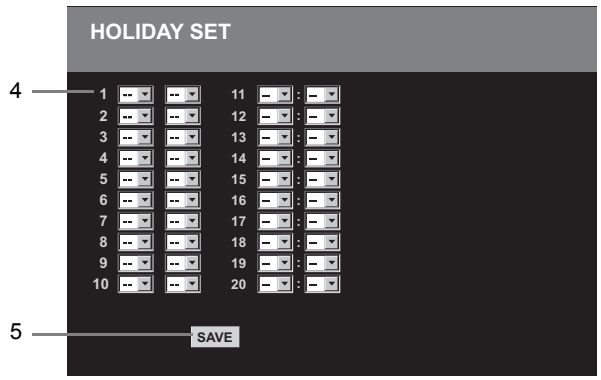
The “MAIN MENU” is displayed.

2 Click “1. INITIAL SET”.

The “INITIAL SET” screen is displayed.

3 Click “3. HOLIDAY SET”.

The “HOLIDAY SET” screen is displayed.



4 Specify the days to be treated as holidays.

Left column: Day, Right column: Month
A maximum of 20 different days can be specified as holidays.

5 Click [SAVE].

The setting is saved.

CAUTION

- If “DLY” is set using timer settings, timer recording on the above-mentioned holidays is also performed in accordance with daily settings. In other words, “DLY” includes Sundays and is given priority over other settings.
- If a day is selected in February, April, June, September or November that does not exist (see table below), this is changed automatically to the last day of the month. No distinction is made between leap years and normal calendar years.

Month	Non-existent day	Day changed to (last day of the month)
2	30, 31	29
4, 6, 9, 11	31	30

1. RECORDING AREA SET

The unit's hard disk is separated into two independent recording areas. Furthermore, five different recording modes can be used for these two areas.
The memory capacity for each area is allocated as a percentage. (Setting units: 1%)

Recording area	Recording mode		Recording method
Recording area	Normal recording	Manual	Recording is performed by manual operation of the button on the operation panel.
	Timer recording	Automatic	Recording is performed automatically for the time period set with "2-5. TIMER SET".
	Alarm recording	Automatic	Recording is performed automatically when an alarm is detected, as set with "2-6. ALARM REC MODE SET".
	Pre-alarm recording	Automatic	Automatic recording of images before an alarm occurs, as set with "PRE-ALARM RECORDING" in "2-6. ALARM REC MODE SET". This function is used together with alarm recording.
Archive area	Copy	Manual	The required images are copied from another recording area and stored by manual operation of the button on the operation panel.

1 Click the button on the operation panel.

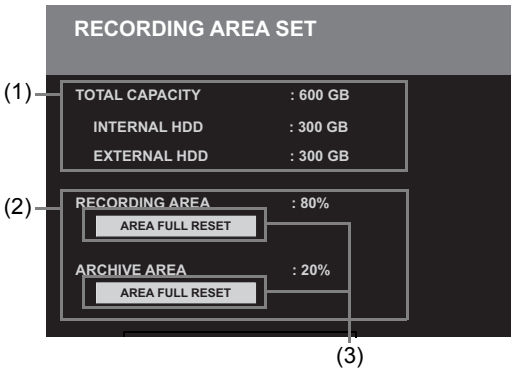
The "MAIN MENU" is displayed.

2 Click "2. RECORD SET".

The "RECORD SET" screen is displayed.

3 Click "1. RECORDING AREA SET".

The "RECORDING AREA SET" screen is displayed.



(1) Total capacity display
Displays the total capacity of the hard disk and the capacity of all internal and expansion hard disks.

NOTE

- You can install up to six hard disks by using an expansion unit.

(2) Area-specific capacity display
Displays the capacity set by the unit for each recording area as a percentage of the total capacity.

NOTE

- Setting and modification of recording area capacities cannot be made from a PC.

(3) Recording area reset
If the overwrite setting is "OFF", recording automatically stops when the corresponding recording area becomes full. In this case, click [AREA FULL RESET] to overwrite from the beginning of each area. (→step 4)

NOTE

Reset is not required in the following cases and, therefore, [AREA FULL RESET] is not displayed.

- When the overwrite setting is "ON".

AREA FULL RESET

If “OVERWRITE” is set to “OFF” for recording conditions, recording automatically stops when the recording areas become full. In this case, AREA FULL RESET can be used to overwrite previous recordings.

4 Click [AREA FULL RESET] under “RECORDING AREA”.

To perform AREA FULL RESET for the archive area, click [AREA FULL RESET] under “ARCHIVE AREA”.

CAUTION

- When AREA FULL RESET is performed for “RECORDING AREA”, the recordings in the recording area are overwritten.
- When AREA FULL RESET is performed for “ARCHIVE AREA”, the recordings in the archive area are overwritten.

2. RECORDING CONDITIONS SET

Use the following procedure to set the permission for overwriting to recording areas or the remaining-space warning level.

Setting overwriting permission for recording areas

When the recording areas become full, this setting dictates whether recording stops or continues by overwriting the recorded images currently stored on the hard disk.

1 Click the button on the operation panel.

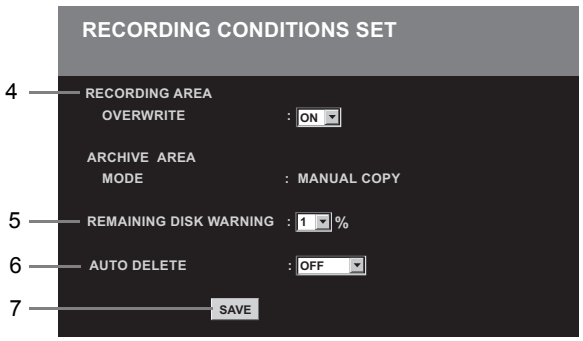
The “MAIN MENU” is displayed.

2 Click “2. RECORD SET”.

The “RECORD SET” screen is displayed.

3 Click “2. RECORDING CONDITIONS SET”.

The “RECORDING CONDITIONS SET” screen is displayed.



4 Set “OVERWRITE” for the “RECORDING AREA” to “ON” or “OFF”.

[Settings] (◆ indicates default setting)

Setting	Description
OFF	Recording stops when a recording area becomes full.
◆ON	When a recording area becomes full, overwriting from the beginning of this area starts automatically.

Setting the remaining-space warning level

When the overwrite setting for a recording area is “OFF”, the unit can issue a warning as soon as the remaining space reaches a specific level. (→P.195)
Use the following procedure to set the level at which the warning is issued.

5 Set “REMAINING DISK WARNING” to the desired remaining-space warning level.

[Settings] (◆ indicates default setting)

Setting	Description
◆1 - 10	Remaining-space warning level can be set from 1% to 10%.

Setting AUTO DELETE

Use the following procedure to set the storage period for recorded data. When the set period expires, the corresponding data is automatically deleted.

6 Set “AUTO DELETE” to the desired storage period.

[Settings] (◆ indicates default setting)

Setting	Description
◆OFF	Auto delete is disabled.
1 - 99 DAYS	Set the storage period for recorded data from “1 DAY” to “99 DAYS” (full days).

7 Click [SAVE].

The setting is saved.

3. NORMAL REC MODE SET

Use the following procedures to set conditions for normal recording and timer recording.

Setting the picture quality for recording

Use the following procedure to set the picture quality for normal recording.

1 Click the button on the operation panel.

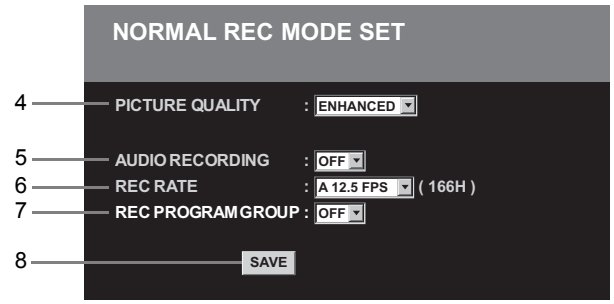
The “MAIN MENU” is displayed.

2 Click “2. RECORD SET”.

The “RECORD SET” screen is displayed.

3 Click “3. NORMAL REC MODE SET”.

The “NORMAL REC MODE SET” screen is displayed.



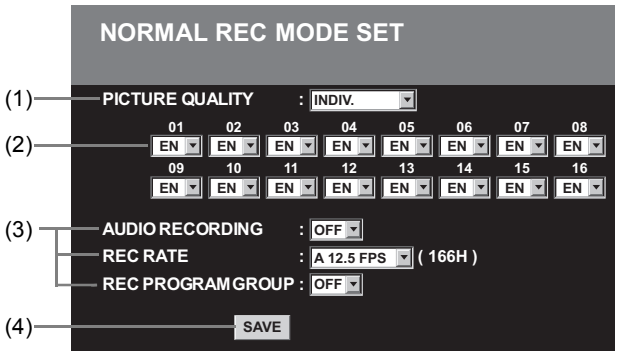
4 Set “PICTURE QUALITY”.

[Settings] (◆ indicates default setting)

Setting	Description
BASIC	Basic
NORMAL	Normal
◆ENHANCED	Enhanced
FINE	Fine
SUPER FINE	Super Fine
INDIV.	Picture quality is set for each camera.

■ Setting the picture quality for each camera

(1) Set “PICTURE QUALITY” to “INDIV.”.
The “NORMAL REC MODE SET” screen is displayed.


NORMAL REC MODE SET
(1)
PICTURE QUALITY : INDIV.
(2)
01 02 03 04 05 06 07 08
EN EN EN EN EN EN EN EN
09 10 11 12 13 14 15 16
EN EN EN EN EN EN EN EN
(3)
AUDIO RECORDING : OFF
REC RATE : A 12.5 FPS (166H)
REC PROGRAM GROUP : OFF
(4)
SAVE

(2) Set the picture quality for each camera.
On the DSR-5709P, cameras No. 01-09 are displayed.
(3) Set “AUDIO RECORDING”, “REC RATE” and “REC PROGRAM GROUP” (→steps 5 to 7).
(4) Click [SAVE].

Setting audio recording

Audio can be recorded together with images during normal recording.
Note, however, that since this audio data is also stored in the recording area, the recording time for this area decreases.

5 Set “AUDIO RECORDING” to “ON” or “OFF”.

[Settings] (◆ indicates default setting)

Setting	Description
◆OFF	Audio is not recorded.
ON	Audio is recorded.

Setting the recording rate

Use the following procedure to set the recording rate for normal recording.

6 Set “REC RATE” to the desired recording rate.

[Settings] (◆ indicates default setting)

Setting	Description
A100, A50, A25, A16.67, ◆A12.5, A8.333, A6.25, A5, A4.167, A3.571, A3.125, A2.778, A2.5, A2.273, A1.923, A1.667, A1.471, A1.316, A1.19, A1.087, A1	Recording is performed at the selected recording rate (unit: FPS). (Audio can be recorded.)
0.5, 0.333, 0.25, 0.2, 0.1, 0.05, 0.033	Recording is performed at the selected recording rate (unit: FPS). (Audio cannot be recorded.)
***	Recording rate is not set.

The letter “A” is displayed in front of recording rates that can be set for audio recording.

CAUTION

- When only one camera is connected, recording is performed at 25 FPS even if 50 or 100 FPS are set.
- When two or more cameras are connected and 50 or 100 FPS is set, the actual recording rate is roughly the recording rate divided by the number of cameras. (Example: When 8 cameras are connected and the recording rate setting is 100 FPS, the actual recording rate is 12.5 FPS)
- When mirroring or pre-alarm recording is set to “ON”, recording rates that can be set are limited.

Selecting setting values
Image resolution is determined by the product of picture quality and recording rate.
The higher the picture quality and the faster the recording rate, the better the image resolution; however, as higher resolution requires more storage capacity, the recording time decreases accordingly.

NOTE

- The recording rate for timer recording should be set separately using the “TIMER SET” screen. (→P.191)

7 Set “REC PROGRAM GROUP” to the desired program group.

[Settings] (◆ indicates default setting)

Setting	Description
◆OFF	No program group is set.
P-1	Program No. 1
P-2	Program No. 2
P-3	Program No. 3
P-4	Program No. 4

NOTE

- Settings for program groups should be made separately on the “PROGRAM REC SET” screen. (→P.190)

8 Click [SAVE].

The setting is saved.

4. PROGRAM REC SET

When monitoring a number of cameras connected to this digital video recorder, a separate recording rate can be set for each camera. In addition, video recorded from each camera and the corresponding recording rates can be set in programs with up to four patterns, thus facilitating the simple specification of programs for TIMER SET and NORMAL REC MODE SET menus.

1 Click the button on the operation panel.

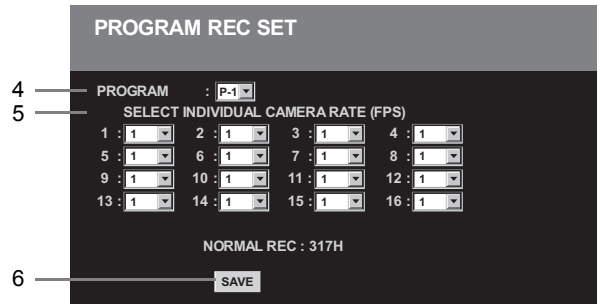
The “MAIN MENU” is displayed.

2 Click “2. RECORD SET”.

The “RECORD SET” screen is displayed.

3 Click “4. PROGRAM REC SET”.

The “PROGRAM REC SET” screen is displayed.


PROGRAM REC SET
4
5
PROGRAM : P-1
SELECT INDIVIDUAL CAMERA RATE (FPS)
1 : 1 2 : 1 3 : 1 4 : 1
5 : 1 6 : 1 7 : 1 8 : 1
9 : 1 10 : 1 11 : 1 12 : 1
13 : 1 14 : 1 15 : 1 16 : 1
NORMAL REC : 317H
6
SAVE

4 Set “PROGRAM” to the desired program group.

[Settings]

Setting	Description
P-1	Program No. 1
P-2	Program No. 2
P-3	Program No. 3
P-4	Program No. 4

5 For “SELECT INDIVIDUAL CAMERA RATE (FPS)”, set the recording rate for each camera.

Set the recording rate for the cameras from which video is to be recorded.

[Settings] (◆ indicates default setting)

Setting	Description
OFF	Recording rate is not set.
25, 12.5, 6.25, 3.125, 1.563, ◆1, 0.5, 0.333, 0.25, 0.2, 0.1, 0.05, 0.033	Recording is performed at the selected recording rate (unit: FPS).

CAUTION

- For program recording, set recording rate per channel. Recording rates that can be set per channel are automatically calculated.
- When mirroring or pre-alarm recording is set to “ON”, recording rates that can be set are limited.

NOTE

- The recording rates listed in pull-down menus vary according to the connected channels.

6 Click [SAVE].

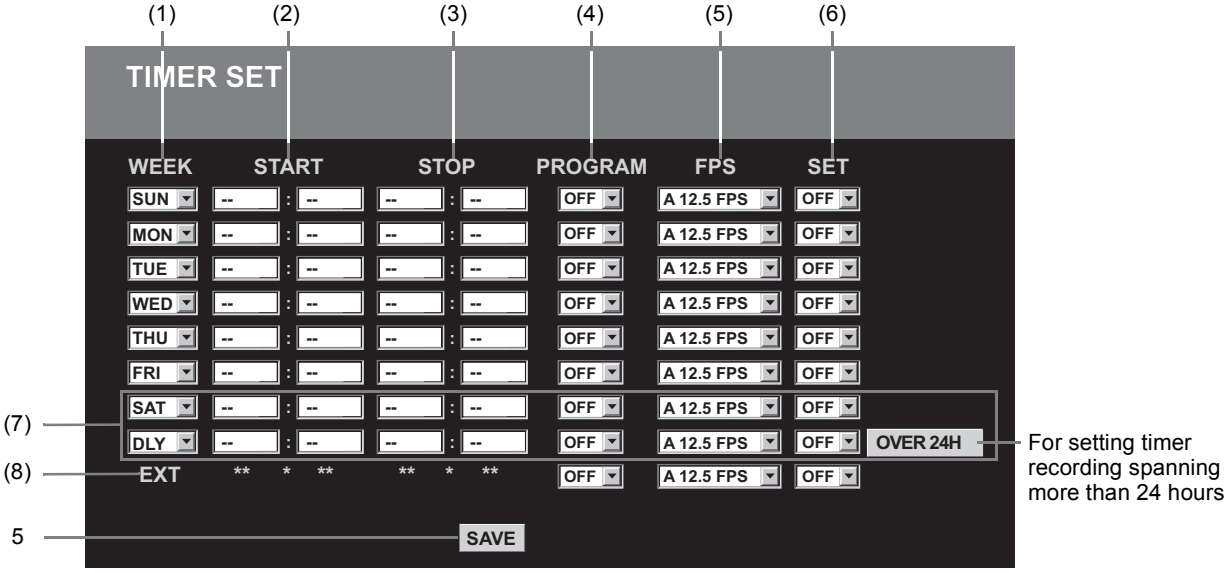
When the setting is completed, the normal recording time associated with the setting is displayed for reference purposes.
Use the above procedure to set up to four program patterns.

CAUTION

- Set values are lost if a different window is selected without clicking [SAVE].

5. TIMER SET

Use the following procedure to set timer operation duration and timer recording conditions on a day-specific basis.



1 Click the button on the operation panel.

The “MAIN MENU” is displayed.

2 Click “2. RECORD SET”.

The “RECORD SET” screen is displayed.

3 Click “5. TIMER SET”.

The “TIMER SET” screen is displayed.

4 Set timer recording conditions for different days of the week.

(1) WEEK
Specifies the days of the week for timer recording. By using multiple setting rows, it is possible to set up timer recording for a number of different times during a single day.

(2) START
Specifies the time at which to start timer recording.

(3) STOP
Specifies the time at which to stop timer recording.

(4) PROGRAM
Specifies the program (P-1 through P-4) for program recording. (→P.190)

(5) FPS
Specifies the recording rate. (→P.189)
Set to “***” for program recording.
“***” is displayed automatically when program recording is set and [SAVE] is clicked.

(6) SET
Set to “ON” to enable timer recording.
Set to “OFF” to disable timer recording.

(7) DLY
Set the start and stop times, program, and recording rate and set “SET” to “ON” to enable timer recording over the same period each day.

(8) EXT
Displays details set by an external timer. (These are not start and stop time settings.)

NOTE

- If “DLY” is set for any other day, all rows use this setting.

5 Click [SAVE].

The setting is saved.

■ Performing timer recording

Click the button on the operation panel. (→P.165)

■ Overlapping of timer reservation times

- If timer settings overlap, recording is performed in the following priority order.
  Individual reservations → “DLY” → “EXT”
  (High) ⟵ Priority ⟶ (Low)
- If a reservation for a particular day or a daily reservation overlaps with each other, priority is given to that with the earliest start time. If both have the same start time, priority is given to that with the highest setting position in the menu.

■ Setting a timer for over 24-hours continuous recording

The bottom two lines (SAT, DLY) of the TIMER SET screen are used to make settings for this type of recording.

(1) Click [OVER 24H] to switch the setting format.
(2) Set the day and time for the start of recording in the top row.
(3) Set the day, time, program and recording rate for the end of recording in the bottom row.
(4) Select “ON” for “SET” on the bottom row to specify timer recording extending for over 24 hours.

6. ALARM REC MODE SET

Use the following procedure to set the recording conditions for alarm recording.

Setting alarm recording

Set the operation patterns and recording conditions to perform alarm recording.

1 Click the button on the operation panel.

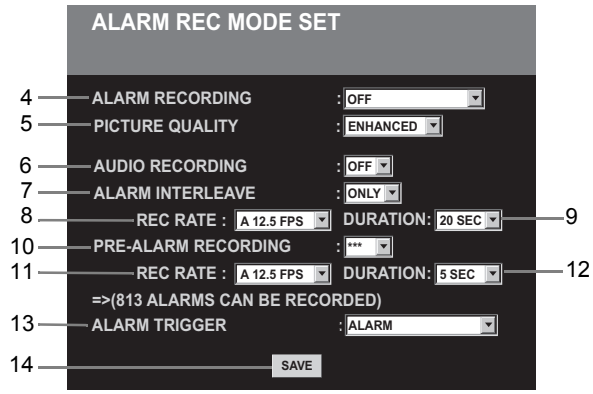
The “MAIN MENU” is displayed.

2 Click “2. RECORD SET”.

The “RECORD SET” screen is displayed.

3 Click “6. ALARM REC MODE SET”.

The “ALARM REC MODE SET” screen is displayed.



4 Set “ALARM RECORDING” to the desired recording mode.

[Settings] (◆ indicates default setting)

Setting	Description
◆OFF	Alarm recording is disabled.
ENABLED	Alarm recording is always performed regardless of timer recording or timer settings.
AL-REC ON TIMER	Alarm recording is performed only during timer recording.
AL-REC OFF TIMER	Alarm recording is performed only during recording other than timer recording.
OLY AL-RC ON TMR	Alarm recording is performed only in the period set for timer recording without timer recording actually being performed.

Setting the picture quality for recording

Use the following procedure to set the picture quality for alarm recording.

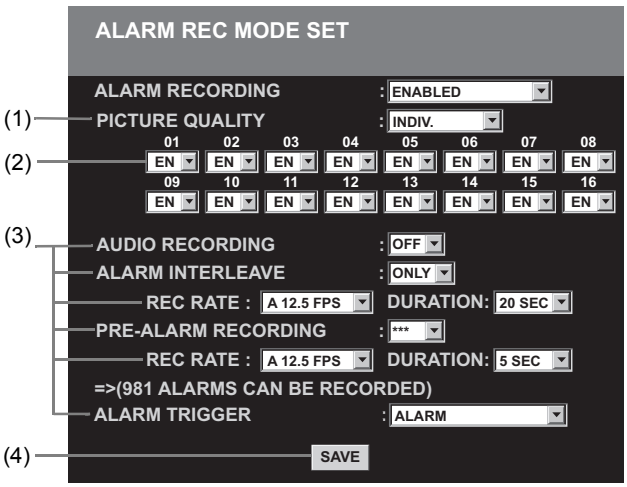
5 Set “PICTURE QUALITY”.

[Settings] (◆ indicates default setting)

Setting	Description
BASIC	Basic
NORMAL	Normal
◆ENHANCED	Enhanced
FINE	Fine
SUPER FINE	Super Fine
INDIV.	Picture quality is set for each camera.

■ Setting the picture quality for each camera

(1) Set “PICTURE QUALITY” to “INDIV.”.
The “ALARM REC MODE SET” screen is displayed.


ALARM REC MODE SET
ALARM RECORDING : ENABLED
(1)
PICTURE QUALITY : INDIV.
01 02 03 04 05 06 07 08
(2)
EN EN EN EN EN EN EN EN
09 10 11 12 13 14 15 16
EN EN EN EN EN EN EN EN
(3)
AUDIO RECORDING : OFF
ALARM INTERLEAVE : ONLY
REC RATE : A 12.5 FPS DURATION: 20 SEC
PRE-ALARM RECORDING : ***
REC RATE : A 12.5 FPS DURATION: 5 SEC
=>(981 ALARMS CAN BE RECORDED)
ALARM TRIGGER : ALARM
(4)
SAVE

(2) Set the picture quality for each camera.
(3) Set “AUDIO RECORDING”, “ALARM INTERLEAVE”, “REC RATE”, “DURATION”, “PRE-ALARM RECORDING”, “REC RATE”, “DURATION” and “ALARM TRIGGER” (→steps 6 to 13).
(4) Click [SAVE].

Setting audio recording

Audio can be recorded together with images during alarm recording. Note, however, that since this audio data is also stored in the recording area, the recording time for this area decreases.

6 Set “AUDIO RECORDING”.

[Settings] (◆ indicates default setting)

Setting	Description
◆OFF	Audio is not recorded.
ON	Audio is recorded.

NOTE

- The settings for audio recording are restricted by the settings for “ALARM INTERLEAVE (Step 7)” as follows:
  ONLY/SW/ALL:
  Audio recording is enabled when “REC RATE (Step 8)” is set to 1 FPS or more.
  ALL (P-1 ─ 4):
  Audio recording is enabled when “REC RATE” for any one of the program-registered cameras is set to 1 FPS or more.
  ONLY (P-1 ─ 4):
  Audio recording is disabled.
- If audio recording is unavailable due to restrictions, “AUDIORECORDING” will be forcibly switched to “OFF” when you click the [SAVE] button even if it is set to “ON”.

Setting the alarm interleave

7 Set “ALARM INTERLEAVE” to the desired recording pattern.

[Settings] (◆ indicates default setting)

Setting	Description
◆ONLY	Video is recorded only from cameras with an alarm occurring.
SW	Recording is switched between video from a camera for which an alarm has occurred and video from all connected cameras.
ALL	For all the connected cameras, video recording starts at the same time when any one of the cameras receives an alarm.
ONLY (P-1) ONLY (P-2) ONLY (P-3) ONLY (P-4)	<“ONLY” program mode> When a connected camera registered in the program recording setting receives an alarm, video recording starts at a recording rate specified in the program. ● Specify the program you want to apply from “P-1” to “P-4”. ● Audio recording is not available.
ALL (P-1) ALL (P-2) ALL (P-3) ALL (P-4)	<“ALL” program mode> When any one of the connected cameras registered in the program recording setting receives an alarm, video recording starts for all the connected cameras at a recording rate which was independently specified for each connected camera in the program. ● Specify a program you want to apply from “P-1 to P-4”. ● Audio recording is available only when any one of the cameras has a recording rate of 1 FPS or more.

NOTE

- In the program mode, there is a time lag of approximately up to one second between the alarm occurrence and start of recording, depending on the setting values of the recording rate.

8 Set “REC RATE” to the desired recording rate.

[Settings] (◆ indicates default setting)

Setting	Description
A50, A25, A16.67, ◆A12.5, A8.333, A6.25, A5, A4.167, A3.571, A3.125, A2.778, A2.5, A2.273, A1.923, A1.667, A1.471, A1.316, A1.19, A1.087, A1	Recording is performed at the selected recording rate (unit: FPS). (Audio can be recorded.)
0.5, 0.333, 0.25, 0.2, 0.1, 0.05, 0.033	Recording is performed at the selected recording rate (unit: FPS). (Audio cannot be recorded.)

NOTE

- The letter “A” is displayed in front of recording rates that can be set for audio recording.
- If “ALARM INTERLEAVE (step 7)” is set to program mode, you cannot select the recording rate.
  “***FPS” is automatically displayed when you click the [SAVE] button.

CAUTION

- When only one camera is connected, recording is performed at 25 FPS even if 50 FPS is set.
- When two or more cameras are connected and 50 FPS is set, the actual recording rate is roughly the recording rate divided by the number of cameras. (Example: When 4 cameras are connected and the recording rate setting is 50 FPS, the actual recording rate is 12.5 FPS)

9 Set “DURATION” to the desired alarm recording duration.

[Settings] (◆ indicates default setting)

Setting	Description
5SEC, 10SEC, ◆20SEC, 40SEC, 1MIN, 2MIN, 3MIN, 4MIN, 5MIN, 10MIN, 15MIN	Records for the set duration for each alarm.
CC	Records while an alarm is activated (Recording continues for five seconds even if less than five seconds).

Setting pre-alarm recording.

Use the following procedure to set the recording conditions to be used for pre-alarm. (→P.168)

10 Set “PRE-ALARM RECORDING” to “ON” or “OFF”.

[Settings] (◆ indicates default setting)

Setting	Description
◆OFF	Pre-alarm recording is disabled.
ON	Pre-alarm recording is enabled.

NOTE

- If “ALARM RECORDING” is set to “OFF”, the PRE-ALARM RECORDING setting is displayed as “**” and cannot be set.

11 Set “REC RATE” to the desired recording rate.

[Settings] (◆ indicates default setting)

Setting	Description
A100, A50, A25, A16.67, ◆A12.5, A8.333, A6.25, A5, A4.167, A3.571, A3.125, A2.778, A2.5, A2.273, A1.923, A1.667, A1.471, A1.316, A1.19, A1.087, A1	Recording is performed at the selected recording rate (unit: FPS).

The letter “A” is displayed in front of recording rates that can be set for audio recording.

CAUTION

- When mirroring is set to "ON", configurable recording rates are limited.
- When only one camera is connected, recording is performed at 25 FPS even if 50 or 100 FPS are set.
- When two or more cameras are connected and 50 or 100 FPS is set, the actual recording rate is roughly the recording rate divided by the number of cameras. (Example: When 8 cameras are connected and the recording rate setting is 100 FPS, the actual recording rate is 12.5 FPS)

12 Set “DURATION” to the desired pre-alarm recording duration.

[Settings] (◆ indicates default setting)

Setting	Description
5SEC, 10SEC, 20SEC, 40SEC, ◆1MIN, 2MIN, 3MIN, 4MIN, 5MIN, 10MIN, 15MIN	Records for the set duration.

Setting alarm triggers

Use the following procedure to set the alarm triggers (i.e., launch signals), which function as operation conditions for alarm recording.

13 Set “ALARM TRIGGER” to the desired launch signal for alarm recording.

[Settings] (◆ indicates default setting)

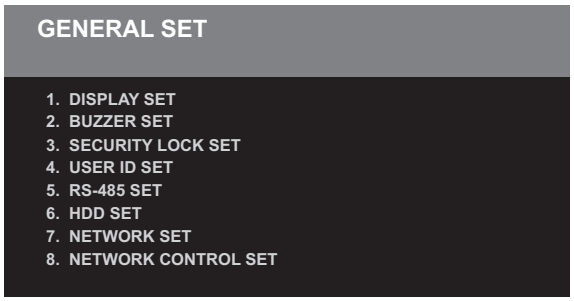
Setting	Description
◆ALARM	Starts recording when an external alarm is activated.
SENSOR	Starts recording when a motion sensor is activated.
ALARM AND SENSOR	Starts recording when both an external alarm and a motion sensor are activated simultaneously.
ALARM OR SENSOR	Starts recording when an external alarm or a motion sensor is activated independent of the other.

NOTE

- External alarm detection:
  This is used to describe input of an external detection signal from a door switch or the like to the unit’s ALARM IN terminal.
- Motion sensor detection:
  This refers to detection of motion on the monitor in accordance with motion sensor settings.
- The motion sensor settings are made on the digital video recorder.

14 Click [SAVE].

The setting is saved.



1. DISPLAY SET

Set conditions for the display of data on the unit's monitor by selecting "ON" or "OFF" for each item.

1 Click the button on the operation panel.

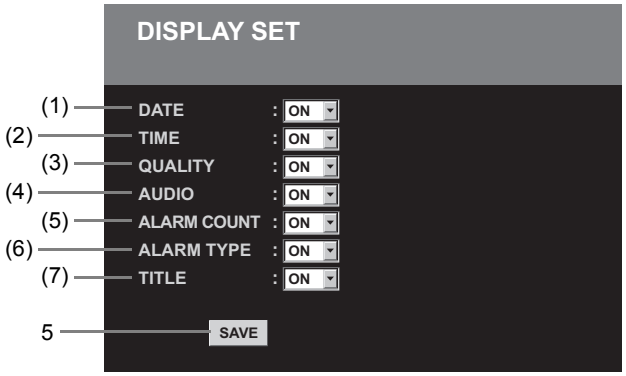
The "MAIN MENU" is displayed.

2 Click "3. GENERAL SET".

The "GENERAL SET" screen is displayed.

3 Click "1. DISPLAY SET".

The "DISPLAY SET" screen is displayed.



4 Select "ON" or "OFF" for each display item.

	Item	Default setting	Description
(1)	DATE	ON	Displays the current date or recording date.
(2)	TIME	ON	Displays the current time or recording time.
(3)	QUALITY	ON	Displays the picture quality for recording or playback.
(4)	AUDIO	ON	Displays the audio status during recording or playback.
(5)	ALARM COUNT	ON	Displays the number of recorded alarms.
(6)	ALARM TYPE	ON	Displays the alarm recording type. ● For alarm recording: "ALARM" is displayed. ● For pre-alarm recording: "PRE" is displayed.
(7)	TITLE	ON	Displays the camera title.

5 Click [SAVE].

The setting is saved.

NOTE

- These settings apply to information displayed on the monitor connected to the unit, not to information displayed on the PC monitor.

2. BUZZER SET

Use the following procedure to set a warning buzzer that sounds when an alarm occurs or when the hard disk space reaches remaining-space warning level.

1 Click the button on the operation panel.

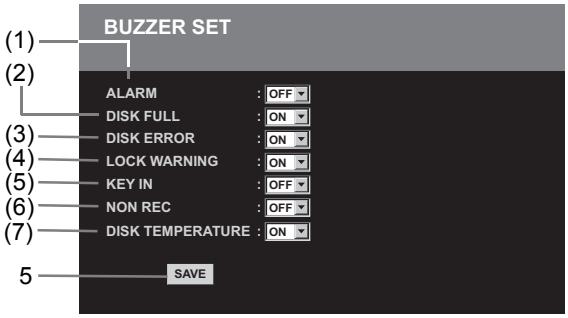
The "MAIN MENU" is displayed.

2 Click "3. GENERAL SET".

The "GENERAL SET" screen is displayed.

3 Click "2. BUZZER SET".

The "BUZZER SET" screen is displayed.



4 Select "ON" or "OFF" for each display item.

	Item	Default setting	Description
(1)	ALARM	OFF	Sounds a buzzer when an alarm is detected.
(2)	DISK FULL	ON	Sounds a buzzer when the amount of data stored in each of the hard disk recording areas reaches the remaining-space warning level (→P.188).
(3)	DISK ERROR	ON	Sounds a buzzer when a hard-disk error occurs.
(4)	LOCK WARNING	ON	Sounds a buzzer when a restricted operation button is pressed during security lock. Specifically, the buzzer sounds twice with an interval of approximately 0.5 seconds.
(5)	KEY IN	OFF	Buzzer emits a key-operation sound each time a button is pressed.
(6)	NON REC	OFF	Sounds a buzzer when recording is stopped.
(7)	DISK TEMPERATURE	ON	Sounds a buzzer accompanied with a warning message, when the temperature has exceeded a given value in the hard disk drive.

5 Click [SAVE].

The setting is saved.

CAUTION

- These settings apply to the buzzer on the digital video recorder. To sound a buzzer on the PC, refer to NOTE.
- Different settings cannot be used for the recorder and the PC.
- When a buzzer sounds, press any button on the digital video recorder to stop the buzzer.
- The “DISK TEMPERATURE” warning function does not work with a RAID unit. Select “OFF” if you use hard disks other than those designated by SANYO, as this function may not properly work on them.

NOTE

To sound a buzzer on the PC

- Create a folder named “BUZZER” within the root directory of the PC’s C drive.
- Within this folder, save the sound to be used as a buzzer in .wav format and with the name “BUZZER.WAV”.
  Example: C:\BUZZER\BUZZER.WAV

Once these settings have been made, whenever an alarm occurs, the PC provides notification by playing the saved .wav file.

* Only the first second of the saved audio file is played, and for this reason, it is advisable to choose a file with suitable audio in the first second. The use of large audio files is discouraged.

* The PC buzzer only sounds when an alarm occurs. It does not sound for errors such as disk full warning, disk error or recording stop.

To cancel the buzzer setting on the PC

- Delete the folder or file created in the above-mentioned process, change the name of the audio file, or move it to a different location on the hard disk.
- Press the ■ (Stop) button on the PLAYBACK area on the operation panel to stop the buzzer on the PC.

3. SECURITY LOCK SET

User level functions can be displayed.

1 Click the button on the operation panel.

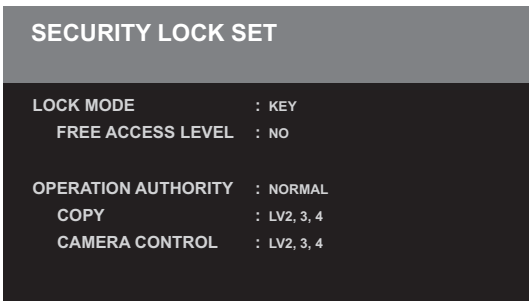
The “MAIN MENU” is displayed.

2 Click “3. GENERAL SET”.

The “GENERAL SET” screen is displayed.

3 Click “3. SECURITY LOCK SET”.

The “SECURITY LOCK SET” screen is displayed.



Setting	Description
LOCK MODE	Displays the currently set lock mode (KEY/ PASSWORD/NETWORK)
FREE ACCESS LEVEL	Displays user levels that cannot use password lock (NO/LV1/LV1,2/LV1,2,3) when “LOCK MODE” is set for “PASSWORD”
OPERATION AUTHORITY	Displays whether default values are used for user authorization, and whether to change the authorization for copying to external media or camera control
COPY	Displays user levels that have permission to copy to external media when “OPERATION AUTHORITY” is set for “CHANGE”
CAMERA CONTROL	Displays user levels with camera control permission when “OPERATION AUTHORITY” is set to “CHANGE”

4. USER ID SET

Set a user ID and password to restrict operation of the digital video recorder directly or through the network.

■ User levels and privileges

Select from the following four user levels.

<table>
<tr><th>Operation privilege / Level</th><th>LV1</th><th>LV2</th><th>LV3</th><th>LV4</th></tr>
<tr><td>Monitoring</td><td>○*1</td><td>○</td><td>○</td><td>○</td></tr>
<tr><td>Playback/ searching</td><td>×</td><td>○</td><td>○</td><td>○</td></tr>
<tr><td>Recording</td><td>×</td><td>×</td><td>○</td><td>○</td></tr>
<tr><td>Menu operation</td><td>×</td><td>×</td><td>×</td><td>○</td></tr>
<tr><td>Monitor control</td><td>×</td><td>×</td><td>×</td><td>×</td></tr>
<tr><td rowspan="3">Concurrent connection restriction</td><td rowspan="2">16 users*2</td><td>3 users</td><td colspan="2">1 user at LV3 or LV4</td></tr>
<tr><td colspan="3">3 users at LV2, LV3 and LV4</td></tr>
<tr><td colspan="4">16 users including a user for the DVR (1 user for the DVR)</td></tr>
</table>

*1 Masked video cannot be monitored.
*2 However, the maximum number may not be possible depending on the NET conditions and the number of screens displayed.

Registering a user

Use the following procedure to set the user ID, password and level.
The user ID must be between one and eight alphanumeric characters, and the password between four and eight alphanumeric characters.
Characters that can be entered: 0 to 9, A to Z

1 Click the button on the operation panel.

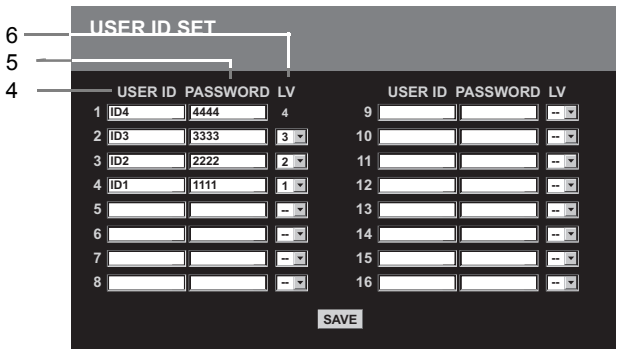
The “MAIN MENU” is displayed.

2 Click “3. GENERAL SET”.

The “GENERAL SET” screen is displayed.

3 Click “4. USER ID SET”.

The “USER ID SET” screen is displayed.



4 Set user ID for “USER ID”.

5 Set “PASSWORD”.

6 Set user level for “LV”.

[Settings]

Setting	Description
1	Level 1
2	Level 2
3	Level 3
4	Level 4

7 Click [SAVE].

The setting is saved.

CAUTION

- The “LV” setting registered on line 1 cannot be changed from “4”. To change the level, register a separate user on a different line.

5. RS-485 SET

This screen displays settings relevant to the unit's interfaces. Settings cannot be changed.

1 Click the button on the operation panel.

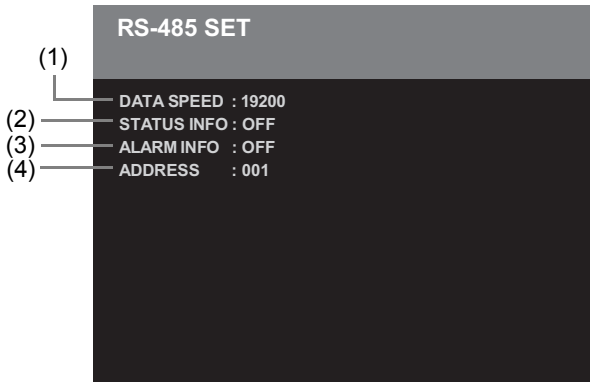
The "MAIN MENU" is displayed.

2 Click "3. GENERAL SET".

The "GENERAL SET" screen is displayed.

3 Click "5. RS-485 SET".

The "RS-485 SET" screen is displayed.



	Item	Description
(1)	DATA SPEED	Displays the communication speed.
(2)	STATUS INFO	Displays whether or not status information is transmitted during RS-232C/RS-485 communication.
(3)	ALARM INFO	Displays whether or not alarm information is transmitted during RS-232C/RS-485 communication.
(4)	ADDRESS	Displays the address.

6. HDD SET

This screen displays information regarding the hard disk.

1 Click the button on the operation panel.

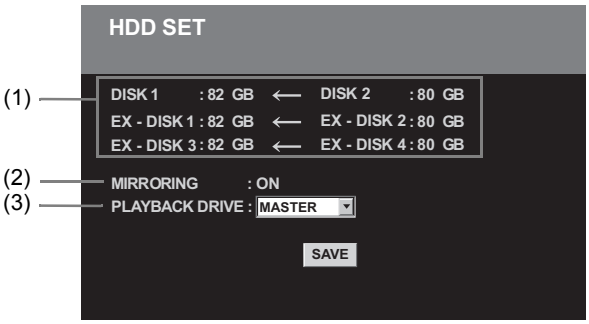
The "MAIN MENU" is displayed.

2 Click "3. GENERAL SET".

The "GENERAL SET" screen is displayed.

3 Click "6. HDD SET".

The "HDD SET" screen is displayed.


HDD SET
(1)
DISK 1 : 82 GB ⟵ DISK 2 : 80 GB
EX - DISK 1 : 82 GB ⟵ EX - DISK 2 : 80 GB
EX - DISK 3 : 82 GB ⟵ EX - DISK 4 : 80 GB
(2)
MIRRORING : ON
(3)
PLAYBACK DRIVE : MASTER
SAVE

(1) Hard disk capacity
Displays the total capacity of the hard disk.
If the hard disk is expanded, the capacity is displayed for each disk.

(2) MIRRORING
Displays settings relevant to mirroring-type recording on the digital video recorder.

Setting	Description
ON	Mirroring recording enabled.
OFF	Mirroring recording disabled.

NOTE

- Mirroring:
  When the hard disk is expanded, the same video can be recorded to both hard disks in a process known as "mirroring". Even if a problem occurs in the writing of video data to one of the disks, it is possible to extract normal data from the other disk when this function is turned on.

(3) PLAYBACK DRIVE
This item indicates which of the hard drives is used to provide video for playback when mirroring is turned on.

Setting	Description
***	Mirroring is disabled.
MASTER	Playback data is read from master disk.
SLAVE	Playback data is read from slave disk.

CAUTION

- "***" is displayed and "PLAYBACK DRIVE" cannot be set when only one hard disk is being used or when "MIRRORING" is set to "OFF".
- When this setting is made after expanding the hard disk, the hard disks are initialized and all recorded video is lost. If any important recordings are stored on the hard disks, they should also be stored on a separate data storage device before making this setting.

7. NETWORK SET

Network settings must be made in advance on the unit whenever it is to be controlled via a network. Once this is done, settings can then be changed from the controlling PC.

NOTE

- Changing network-related settings
  When these settings are modified, the connection is cancelled and control rights are returned to the unit. To reestablish the connection, reset the network settings on the PC to match the modified settings on the unit.

1 Click the button on the operation panel.

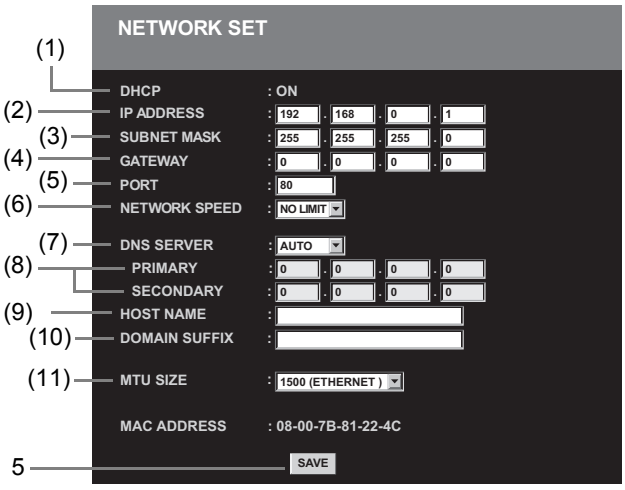
The "MAIN MENU" is displayed.

2 Click "3. GENERAL SET".

The "GENERAL SET" screen is displayed.

3 Click "7. NETWORK SET".

The "NETWORK SET" screen is displayed.



4 Change the settings as required.

	Item	Description
(1)	DHCP	Set from the digital video recorder whether the IP address is automatically acquired from the DHCP server or manually set. Set "ON" when using an IP address acquired automatically from an Internet service provider or a DHCP server on a LAN, and set "OFF" when using a fixed IP.
(2)	IP ADDRESS	Select "OFF" for "DHCP" to set. Generally, a private IP address is used when a fixed IP address is set in a LAN (example: 192.168.0.0 - 192.168.255.255). Be sure not to duplicate IP addresses from other devices.
(3)	SUBNET MASK	Select "OFF" for "DHCP" to set. The same value is set throughout the LAN.
(4)	GATEWAY	Select "OFF" for "DHCP" to set. Specifies the IP address of the device (on the LAN side) when linking a LAN to a WAN or another type of network.
(5)	PORT	Sets open port. Default value is "80".
(6)	NETWORK SPEED	Sets restrictions for traffic in the LAN. Normally, this is set to "NO LIMIT".
(7)	DNS SERVER	Set whether the DNS server IP address is automatically acquired or manually set. Generally this setting is "AUTO" when "ON" is selected for "DHCP". When the DNS server address is specified by network administrator or Internet service provider, select "MANUAL" and set "PRIMARY" and "SECONDARY" below.
(8)	PRIMARY SECONDARY	Set the primary address and the secondary address. Set when "DNS SERVER" is set to "MANUAL". Set the DNS server address specified by the network administrator or Internet service provider.
(9)	HOST NAME	Set the host name.
(10)	DOMAIN SUFFIX	Set when specified by an Internet service provider.
(11)	MTU SIZE	Set MTU size. The default setting is "1500 (ETHERNET)".

Contact the network administrator for more details on setting values.

CAUTION

- If settings are changed during network control, the connection is terminated.

NOTE

- If a value other than “80” is set as the default value for the port, when specifying the URL, enter a colon (:) and then the port number after the IP address.
  For example, if the port number is set as “60001”, enter http://192.168.0.1:60001/

5 Click [SAVE].

The setting is saved.

8. NETWORK CONTROL SET

CAUTION

- If settings are changed during network control, the connection is terminated.

1 Click the button on the operation panel.

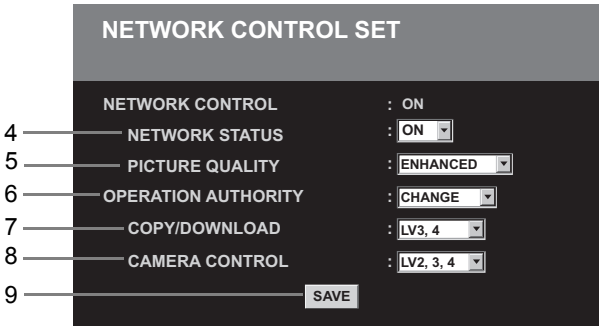
The “MAIN MENU” is displayed.

2 Click “3. GENERAL SET”.

The “GENERAL SET” screen is displayed.

3 Click “8. NETWORK CONTROL SET”.

The “NETWORK CONTROL SET” screen is displayed.


NETWORK CONTROL SET
NETWORK CONTROL : ON
4 NETWORK STATUS : ON
5 PICTURE QUALITY : ENHANCED
6 OPERATION AUTHORITY : CHANGE
7 COPY/DOWNLOAD : LV3, 4
8 CAMERA CONTROL : LV2, 3, 4
9 SAVE

4 Set “NETWORK STATUS” to “ON” or “OFF”.

[Settings] (◆ indicates default setting)

Setting	Description
◆ON	During network connection, the message “NETWORK CONTROL” is displayed on the monitor connected to the digital video recorder.
OFF	The message “NETWORK CONTROL” is not displayed on the monitor connected to the digital video recorder even during network connection.

5 Specify a value for “PICTURE QUALITY” of live video which is received through network.

[Settings] (◆ indicates default setting)

Setting	Description
BACIC (BA)	Basic picture quality
NORMAL (NO)	Normal picture quality
◆ENHANCED (EN)	Enhanced picture quality
FINE (FI)	Fine picture quality
SUPER FINE (SF)	Super fine picture quality

CAUTION

- If the recording rate for normal recording is set to “100 (FPS)”, video is transmitted in normal quality while recording is in progress with the digital video recorder.

6 Set “OPERATION AUTHORITY” to “NORMAL” or “CHANGE”.

If no changes are to be made to user privileges, select “NORMAL” and go to step 8.

[Settings] (◆ indicates default setting)

Setting	Description
◆NORMAL	User privileges remain at the default setting.
CHANGE	Allows changes to user privileges.

7 If “OPERATION AUTHORITY” is set to “CHANGE”, set the level for “COPY/ DOWNLOAD”.

[Settings] (◆ indicates default setting)

Setting	Description
◆LV3, 4	Allows users at Level 3 or higher to download live images.
LV4	Allows users at Level 4 or higher to download live images.

8 If “OPERATION AUTHORITY” is set to “CHANGE”, set the level for “CAMERA CONTROL”.

[Settings] (◆ indicates default setting)

Setting	Description
◆LV2, 3, 4	Allows users at Level 2 or higher to control cameras from the PC.
LV3, 4	Allows users at Level 3 or higher to control cameras from the PC.
LV4	Allows Level 4 users to control cameras from the PC.

9 Click [SAVE].

The settings are saved.

1. SEQUENCE SET

Use the following procedure to scroll through video from all cameras at a specified interval.
The interval for automatic selection can only be set for full screen and quad display.

1 Click the button on the operation panel.

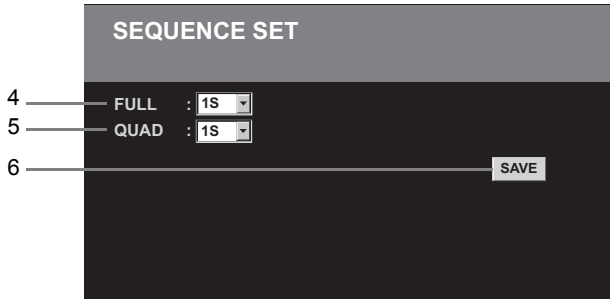
The “MAIN MENU” is displayed.

2 Click “4. SCREEN SET”.

The “SCREEN SET” screen is displayed.

3 Click “1. SEQUENCE SET”.

The “SEQUENCE SET” screen is displayed.



4 Set “FULL” to the desired full-screen display interval.

[Settings] (◆ indicates default setting)

Setting	Description
◆1S	Display changes at a 1 second interval.
2S - 30S	Display changes at a 2 to 30 second interval.
INDIV.	Set the period for each camera.

NOTE

- The screen changes if “INDIV.” is selected. See “Switching the main monitor and monitor 2 displays at a set time period” (following) for the next operations.

5 Set “QUAD” to the desired quad-screen display interval.

[Settings] (◆ indicates default setting)

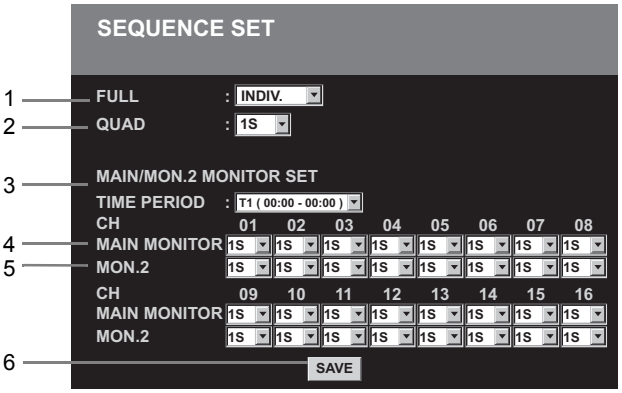
Setting	Description
◆1S	Display changes at a 1 second interval.
2S - 30S	Display changes at a 2 to 30 second interval.

6 Click [SAVE].

The setting is saved.

Switching the main monitor and monitor 2 displays at a set time period

1 Set “FULL” to “INDIV.” on the “SEQUENCE SET” screen.


SEQUENCE SET
1
2
3
4
5
6
FULL : INDIV.
QUAD : 1S
MAIN/MON.2 MONITOR SET
TIME PERIOD : T1 (00:00 - 00:00)
CH 01 02 03 04 05 06 07 08
MAIN MONITOR 1S 1S 1S 1S 1S 1S 1S 1S
MON.2 1S 1S 1S 1S 1S 1S 1S 1S
CH 09 10 11 12 13 14 15 16
MAIN MONITOR 1S 1S 1S 1S 1S 1S 1S 1S
MON.2 1S 1S 1S 1S 1S 1S 1S 1S
SAVE

2 Set “QUAD” to the desired quad-screen display interval.

3 Set “TIME PERIOD” to the desired time period.

[Settings] (◆ indicates default setting)

Setting	Description
◆T1	Time period T1
T2	Time period T2
T3	Time period T3
T4	Time period T4

NOTE

- The time period for “T1” through “T4” changes to that of “TIME PERIOD A” or “TIME PERIOD B” on the <TIME PERIOD SET> screen (→P.74).
- If the time period is set to “ALL DAY LONG”, the display is fixed to “T-1 (00:00-24:00)”.

4 Select the switching interval for each camera on the main monitor.

On the DSR-5709P, cameras No. 01-09 are displayed.

5 Select the switching interval for each camera on monitor 2.

On the DSR-5709P, cameras No. 01-09 are displayed.

6 Click [SAVE].

The setting is saved.

2. MASK SET

Use the following procedure to mask unneeded video on the monitor screen with a gray pattern.

1 Click the button on the operation panel.

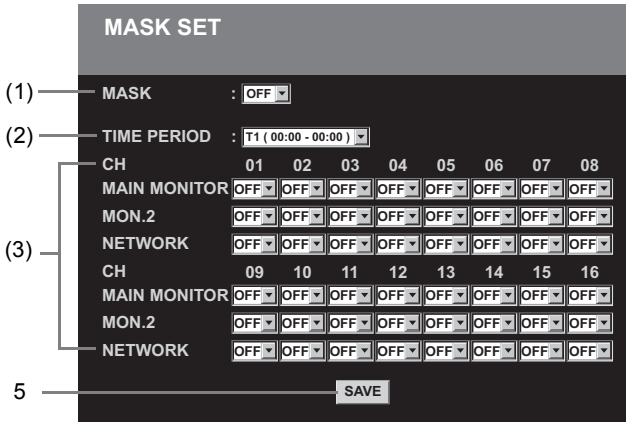
The “MAIN MENU” is displayed.

2 Click “4. SCREEN SET”.

The “SCREEN SET” screen is displayed.

3 Click “2. MASK SET”.

The “MASK SET“ screen is displayed.
On the DSR-5709P, cameras No. 01-09 are displayed.


MASK SET
(1)
MASK : OFF
(2)
TIME PERIOD : T1 (00:00 - 00:00)
(3)
CH 01 02 03 04 05 06 07 08
MAIN MONITOR OFF OFF OFF OFF OFF OFF OFF OFF
MON.2 OFF OFF OFF OFF OFF OFF OFF OFF
NETWORK OFF OFF OFF OFF OFF OFF OFF OFF
CH 09 10 11 12 13 14 15 16
MAIN MONITOR OFF OFF OFF OFF OFF OFF OFF OFF
MON.2 OFF OFF OFF OFF OFF OFF OFF OFF
NETWORK OFF OFF OFF OFF OFF OFF OFF OFF
5
SAVE

4 Set the following functions as required.

	Item	Description
(1)	MASK	Turns masking on or off.
(2)	TIME PERIOD	Select a time period, from T1 to T4. (If the time period is set to “ALL DAY LONG” on the digital video recorder, the display is fixed to “T-1 (00:00-24:00)”.)
(3)	CH	Turns masking on or off for each channel on the main monitor, monitor 2 and network video.

5 Click [SAVE].

The setting is saved.

NOTE

- Network mask settings are valid only for the user connecting to the network with LV1. Users connecting with LV2, LV3 and LV4 are able to display all channels.

1. POWER LOSS/USED TIME

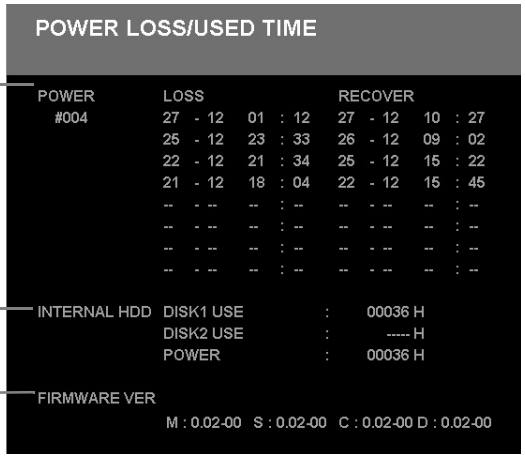
Use the following procedure to check date and time of power losses, the amount of power-on time, and time of use for hard disk.

1 Click the button on the operation panel.

The “MAIN MENU” is displayed.

2 Click “5. POWER LOSS/USED TIME”.

The “POWER LOSS/USED TIME” screen is displayed.



	Item	Description
(1)	POWER	Displays the number of power losses (#007) and the date and time of occurrence and recovery for the eight most recent power losses.
(2)	INTERNAL HDD	Displays the power usage duration for each disk.
(3)	FIRMWARE VER	Displays the firmware version.

NOTE

- The maximum number of power losses displayed is “999”.

INITIALIZATION LOG

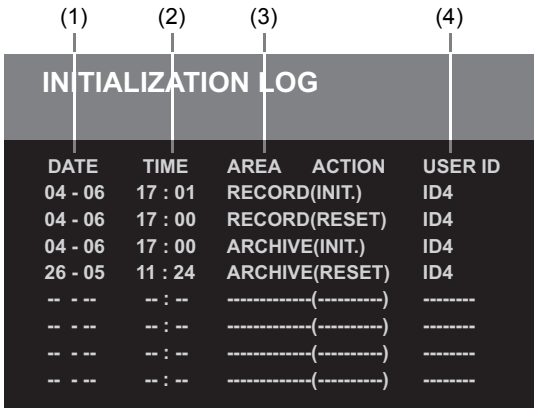
Use the following procedure to check the records for hard-disk initialization and area resetting.

1 Click the button on the operation panel.

The “MAIN MENU” is displayed.

2 Click “6. INITIALIZATION LOG”.

The “INITIALIZATION LOG” screen is displayed.


(1)
(2)
(3)
(4)
INITIALIZATION LOG
DATE TIME AREA ACTION USER ID
04 - 06 17 : 01 RECORD(INIT.) ID4
04 - 06 17 : 00 RECORD(RESET) ID4
04 - 06 17 : 00 ARCHIVE(INIT.) ID4
26 - 05 11 : 24 ARCHIVE(RESET) ID4
-- - -- -- : -- ----------(----------) --------
-- - -- -- : -- ----------(----------) --------
-- - -- -- : -- ----------(----------) --------
-- - -- -- : -- ----------(----------) --------

	Item	Description
(1)	DATE	Displays the date of initialization and area resetting.
(2)	TIME	Displays the time of initialization and area resetting.
(3)	AREA, ACTION	Displays the area in question and the corresponding operation content.
(4)	USER ID	Displays the user ID of the user that performed initialization and area resetting.

NOTE

- The eight most recent records for initialization and area resetting are displayed.

SAVING MENU SETTINGS

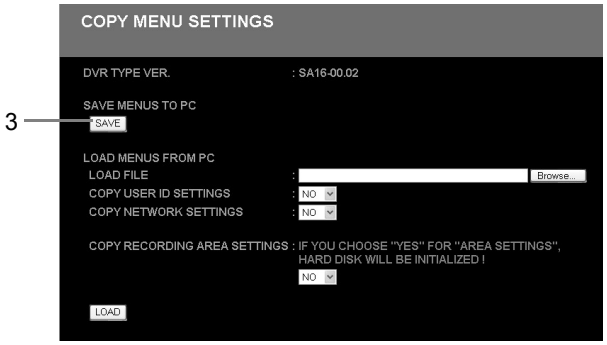
Use the following procedure to save menu settings to a PC.

1 Click the button on the operation panel.

The “MAIN MENU” is displayed.

2 Click “7. COPY MENU SETTINGS”.

The “COPY MENU SETTINGS” screen is displayed.


3
COPY MENU SETTINGS
DVR TYPE VER. : SA16-00.02
SAVE MENUS TO PC
SAVE
LOAD MENUS FROM PC
LOAD FILE :
Browse...
COPY USER ID SETTINGS : NO
COPY NETWORK SETTINGS : NO
COPY RECORDING AREA SETTINGS : IF YOU CHOOSE "YES" FOR "AREA SETTINGS", HARD DISK WILL BE INITIALIZED !
NO
LOAD

3 Click [SAVE].

The save confirmation dialog is displayed.

4 Specify the save destination folder and save.

LOADING MENU SETTINGS

Load menu settings saved on a computer to the digital video recorder.
Also set whether to load user ID settings (→P.197) or network settings (→P.199).

CAUTION

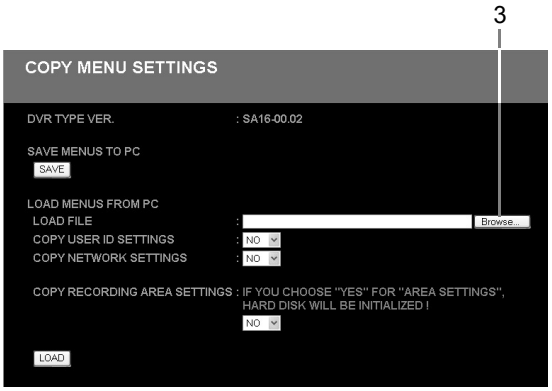
- Recording area settings (→P.83) can also be loaded but hard disk initialization is required.

1 Click the button on the operation panel.

The “MAIN MENU” is displayed.

2 Click “7. COPY MENU SETTINGS”.

The “COPY MENU SETTINGS” screen is displayed.


3
COPY MENU SETTINGS
DVR TYPE VER. : SA16-00.02
SAVE MENUS TO PC
SAVE
LOAD MENUS FROM PC
LOAD FILE :
Browse...
COPY USER ID SETTINGS : NO
COPY NETWORK SETTINGS : NO
COPY RECORDING AREA SETTINGS : IF YOU CHOOSE "YES" FOR "AREA SETTINGS", HARD DISK WILL BE INITIALIZED !
NO
LOAD

3 Click the [BROWSE] button and specify the file that the menu is saved in.

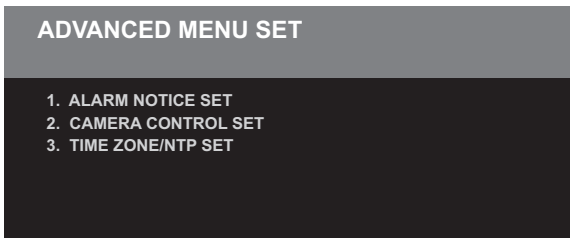
4 Select whether to load user ID settings with “COPY USER ID SETTINGS”.

5 Select whether to load network settings with “COPY NETWORK SETTINGS”.

6 Select whether to load recording area settings with “COPY RECORDING AREA SETTINGS”.

7 Click [LOAD].

The loading process begins.
The network is disconnected and the digital video recorder restarts.



1. ALARM NOTICE SET

Use the following procedure to receive notification by e-mail when an alarm event or device malfunction occurs while the digital video recorder is connected to a network. To set this function, make the necessary e-mail settings.

1 Click the button on the operation panel.

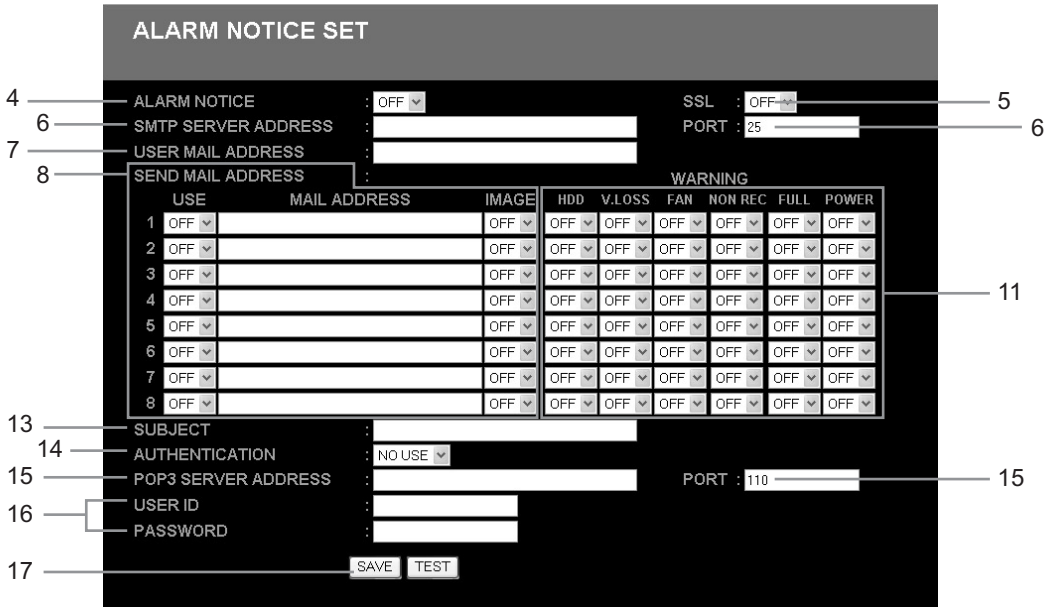
The “MAIN MENU” is displayed.

2 Click “8. ADVANCED MENU SET”.

The “ADVANCED MENU SET” screen is displayed.

3 Click “1. ALARM NOTICE SET”.

The “ALARM NOTICE SET” screen is displayed.



4 Set “ALARM NOTICE” to “ON”.

[Settings] (◆ indicates default setting)

Setting	Description
◆OFF	Alarm notification is disabled.
ON	Alarm notification is enabled.

5 Set “SSL” to “ON” or “OFF”.

[Settings] (◆ indicates default setting)

Setting	Description
◆OFF	Transmits without using SSL.
ON	Transmits using SSL.

6 Set up “SMTP SERVER ADDRESS” and “PORT”.

For “PORT”, specify a port number (0 to 65535) for use in SMTP (transmission). (Default setting: 25)

7 Set “USER MAIL ADDRESS” to the e-mail address from which notifications are sent.

8 Specify “ON” or “OFF” for “USE” under “SEND MAIL ADDRESS”.

[Settings] (◆ indicates default setting)

Setting	Description
◆OFF	Alarm notification is disabled.
ON	Alarm notification is enabled.

9 Enter the recipient’s e-mail address under “MAIL ADDRESS”.

10 Set “IMAGE” to “ON” or “OFF”.

[Settings] (◆ indicates default setting)

Setting	Description
◆OFF	An alarm image is not attached to the e-mail.
ON	An alarm image is attached to the e-mail.

11 Specify “ON” or “OFF” for each item under “WARNING”.

You can configure the main unit to send warning notification mail messages when the following problems are detected in the functionality and operation of the main unit.
You can configure the warning notification feature the same way as the alarm notification feature. All settings default to “OFF”; turning “ON” an item causes the main unit to send warning mail when the corresponding condition is detected.

- **HDD:**
  When abnormal condition has occurred in the hard disk drive, or when the hard disc temperature has risen to 70 degrees or more.
- **V. LOSS:**
  The video signal is disconnected.
- **FAN:**
  The fan is faulty.
- **NON REC:**
  The DVR has stopped recording.
- **FULL:**
  Any one of the recording areas on the hard disk has reached the “remaining-space” warning level or has become full.
- **POWER:**
  The power has turned off and back on again.

NOTE

- If you use the “WARNING” function, specify “ON” for “ALARM NOTICE” in Step 4.
- Since “USE” in Step 8 applies to alarm notification, it does not affect the setting for “WARNING”. A warning notification mail message is sent normally when “ON” is set for it.

12 Use the same procedure to set the e-mail addresses of other e-mail recipients.

Up to eight recipient e-mail addresses can be set.

13 Set “SUBJECT” to the subject of the notification e-mail.

14 Set “AUTHENTICATION” to select whether authentication is to be performed.

[Settings] (◆ indicates default setting)

Setting	Description
◆NO USE	User authentication is not performed.
POP3	POP3 (POP before SMTP) authentication is performed.
SMTP	SMTP authentication is performed.

15 If “POP3” is selected for “AUTHENTICATION”, you need to specify “POP3 SERVER ADDRESS” and “PORT”.

For “PORT”, specify a port number (0 to 65535) for use in POP 3 (reception). (Default setting: 110)

16 If “POP3” or “SMTP” is selected for “AUTHENTICATION”, you need to specify “USER ID” and “PASSWORD”.

17 Click [SAVE].

The setting is saved.

NOTE

- The digital video recorder supports the following SMTP authentication:
  • CRAM-MD5 • LOGIN

CAUTION

- For the digital video recorder to perform authentication, the provider must have authentication settings made. Make the authentication settings after confirming the type of authentication supported by the connected provider.

2. CAMERA CONTROL SET

Set when cameras with remote operation capability are connected.
Perform the following connections and set camera control to use in full screen display.
Connections necessary for remote operation:

- Connect coaxial control cameras to the VIDEO terminal.
- Connect the Sanyo RS-485 control camera to the RS-485 terminal (RJ-11).
- Connect the other companies' RS485/422 control camera to the 2ND RS485/422 terminal.

1 Click the button on the operation panel.

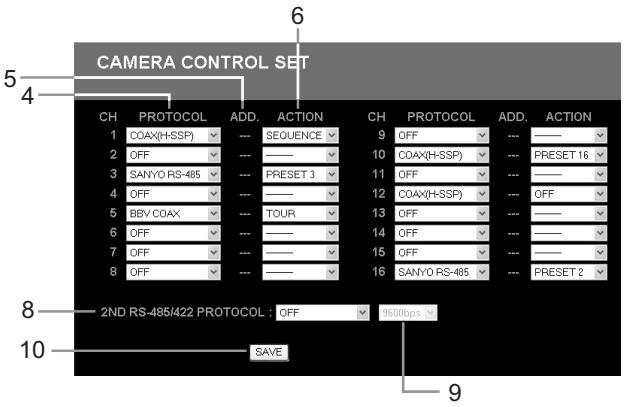
The "MAIN MENU" is displayed.

2 Click "8. ADVANCED MENU SET".

The "ADVANCED MENU SET" screen is displayed.

3 Click "2. CAMERA CONTROL SET".

The "CAMERA CONTROL SET" screen is displayed.
The DSR-5709P displays only nine channels.


6
5
4
CAMERA CONTROL SET
CH PROTOCOL ADD. ACTION CH PROTOCOL ADD. ACTION
1 COAX(H-SSP) --- SEQUENCE 9 OFF --- ——
2 OFF --- —— 10 COAX(H-SSP) --- PRESET 16
3 SANYO RS-485 --- PRESET 3 11 OFF --- ——
4 OFF --- —— 12 COAX(H-SSP) --- OFF
5 BBV COAX --- TOUR 13 OFF --- ——
6 OFF --- —— 14 OFF --- ——
7 OFF --- —— 15 OFF --- ——
8 OFF --- —— 16 SANYO RS-485 --- PRESET 2
8
2ND RS-485/422 PROTOCOL : OFF 9600bps
10
SAVE
9

4 Set "PROTOCOL" to the protocol corresponding to the dome camera.

[Settings] (◆ indicates default setting)

Setting	Description
◆OFF	No protocol
SANYO RS-485	SANYO RS-485
BBV COAX	BBV COAX (Also supports AUX commands.)
PELCO COAX	PELCO COAX
2ND RS-485/422	2ND RS-485/422
COAX (H-SSP)	COAX (H-SSP)

5 The address (000 to 127) is displayed in "ADD".

When "SANYO RS-485" or "2ND RS-485/422" is specified as the protocol, the address is displayed automatically.

6 In "ACTION", specify the interlocking operation of the camera when an alarm is detected.

You can configure the camera to automatically change lens orientation, auto-pan or tour on alarm detection.

[Settings] (◆ indicates default setting)

Setting	Description
◆OFF	No action triggered.
PRESET	Moves the camera lens to the angle corresponding to your selected preset number.
PAN	Starts automatic panning.
TOUR	Starts tour.
SEQUENCE	Starts sequence.

NOTE

- For "PRESET", you can set "PRESET2-9" with DSR-5709P and "PRESET2-16" with DSR-5716P.

CAUTION

- Actually available actions depend on each camera. For more information, refer to the camera's instruction manual.

7 Use the same procedure to set the other channels.

8 Set "2ND RS-485/422 PROTOCOL".

[Settings] (◆ indicates default setting)
◆OFF, BBV, KALATEL, PELCO, SENSORMATIC

9 Set "DATA SPEED".

[Settings] (◆ indicates default setting)
◆9600bps, 4800bps, 2400bps

10 Click [SAVE].

The setting is saved.

4. NTP SET

Use the following procedure to synchronize the time using the Internet or an NTP server on a LAN.

1 Click the button on the operation panel.

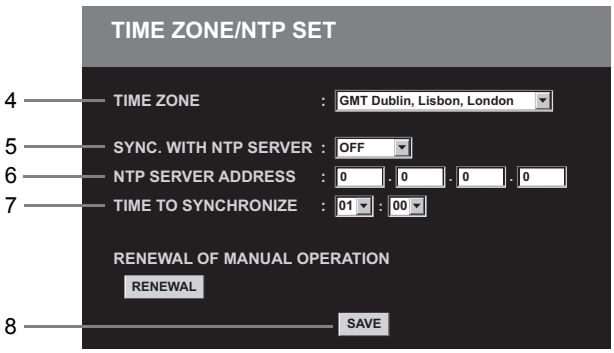
The “MAIN MENU” is displayed.

2 Click “8. ADVANCED MENU SET”.

The “ADVANCED MENU SET” screen is displayed.

3 Click “4. TIME ZONE/NTP SET”.

The “TIME ZONE/NTP SET” screen is displayed.



4 Set “TIME ZONE”.

[Settings] (◆ indicates default setting)

Setting	Description
GMT-12 Eniwetok, Kwajalein	Greenwich Mean Time -12 hours, Eniwetok, Kwajalein
GMT-11 Midway Island, Samoa	Greenwich Mean Time -11 hours, Midway Island, Samoa
GMT-10 Hawaii	Greenwich Mean Time -10 hours, Hawaii
GMT-09 Alaska	Greenwich Mean Time -9 hours, Alaska
GMT-08 Pacific Time	Greenwich Mean Time -8 hours, Pacific Time
GMT-07 Arizona, Mountain Time	Greenwich Mean Time -7 hours, Arizona
GMT-06 Central Time	Greenwich Mean Time -6 hours, Central Time
GMT-05 Eastern Time	Greenwich Mean Time -5 hours, Eastern Time
GMT-04 Atlantic Time (Canada)	Greenwich Mean Time -4 hours, Atlantic Time (Canada)
GMT-03:30 Newfoundland	Greenwich Mean Time -3 hours 30 minutes, Newfoundland
GMT-03 Brasilia	Greenwich Mean Time -3 hours, Brasilia
GMT-02 Mid-Atlantic	Greenwich Mean Time -2 hours, Mid-Atlantic
GMT-01 Azores, Cap Verde Is.	Greenwich Mean Time -1 hour, Azores
◆GMT Dublin, Lisbon, London	Greenwich Mean Time, Dublin, Lisbon, London
GMT+01 Amsterdam, Berlin, Rome	Greenwich Mean Time +1 hour, Amsterdam, Berlin, Rome
GMT+02 Athens, Istanbul, Minsk	Greenwich Mean Time +2 hours, Athens, Istanbul, Minsk
GMT+03 Moscow, Baghdad, Riyadh	Greenwich Mean Time +3 hours, Moscow, Baghdad, Riyadh
GMT+03:30 Tehran	Greenwich Mean Time +3 hours 30 minutes, Tehran
GMT+04 Kabul, Baku, Tbilisi	Greenwich Mean Time +4 hours, Kabul, Baku, Tbilisi
GMT+05 Islamabad, Tashkent	Greenwich Mean Time +5 hours, Islamabad, Tashkent
GMT+05:30 Mumbai, Kolkata	Greenwich Mean Time +5 hours 30 minutes, Mumbai, Kolkata
GMT+06 Almaty, Dhaka	Greenwich Mean Time +6 hours, Almaty, Dhaka
GMT+07 Bangkok, Hanoi, Jakarta	Greenwich Mean Time +7 hours, Bangkok, Hanoi, Jakarta
GMT+08 Beijing, Hong Kong	Greenwich Mean Time +8 hours, Beijing, Hong Kong
GMT+09 Osaka, Sapporo, Tokyo	Greenwich Mean Time +9 hours, Osaka, Sapporo, Tokyo
GMT+10 Canberra, Sydney	Greenwich Mean Time +10 hours, Canberra, Sydney
GMT+11 Magadan, Solomon Is.	Greenwich Mean Time +11 hours, Magadan, Solomon Is.
GMT+12 Auckland, Wellington	Greenwich Mean Time +12 hours, Auckland, Wellington
GMT+12 Fiji, Marshall Is.	Greenwich Mean Time +12 hours, Fiji, Marshall Is.

5 Set “SYNC. WITH NTP SERVER” to “ON”.

6 Set “NTP SERVER ADDRESS”.

7 Set the synchronization time with “TIME TO SYNCHRONIZE”. (10 minute intervals)

8 Click [SAVE].

The setting is saved.

NOTE

- Click [RENEWAL] to manually update the time.

Before Using DVR Viewer2

"DVR Viewer2" is a playback-only application software to support digital video recorders.
Use this section as your guide to DVR Viewer2 instead of the instruction manual provided in a separate volume when you use DVR Viewer2 to play back the video and sound saved on an external medium such as a computer hard disk, USB memory, CD-R/RW, or DVD+R/RW.

● Operating Environment

Environment to be used

- **CPU:** Pentium® IV (2 GHz) or higher
- **RAM:** 256 MB or more (512 MB or more recommended)
- **Compatible OS:** Windows 2000/XP
- **Compatible machines:** PC/AT machines operating with the above OS
- **Display:** Color (XGA 65536-color or higher recommended)
- **Audio:** Sound card and speakers compatible with DirectX
- **Available languages:** English or Japanese
- **Supported formats:** JPEG2000 (image), WAV (sound)

● Installing the Viewer Software

Follow the procedure below to install the software before using it.

1 Insert the included CD-ROM in the computer CD-ROM drive.
Or, if you have downloaded the latest release of DVR Viewer2, decompress the compressed installation file.

NOTE

- You can download the most recent version of the software from our homepage.
  Homepage address
  http://www.sanyosecurity.com

2 Double click the installer icon.
The installer runs.

3 Select the language to be used for install and the install destination following the instructions of the installer.
The software starts installing.

4 Click [Finish] once the install is complete.
Once the "DVR Viewer2" is fully installed, a shortcut icon appears on the desktop.

NOTE

- When writing data from the DVR onto a USB memory or a CD-R/RW, DVD+R/RW, "DVR Viewer2" is copied to the save destination.

CAUTION

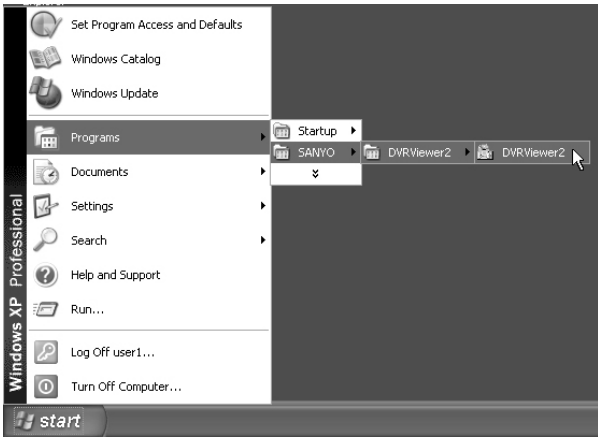
- If an earlier version of Viewer software is installed on the computer, before installing the present software, uninstall the earlier version using [Add or Remove Programs] under the control panel.

● Internet Option Settings

Once the "DVR Viewer2" is fully installed, select Internet Explorer, [Tools] → [Internet Options] → [Security].
If you click the [Custom Level] in the [Security] setting screen, the [Security Settings] dialog pops up. Enable the "ActiveX controls plug-ins".

● Running and Quitting Viewer

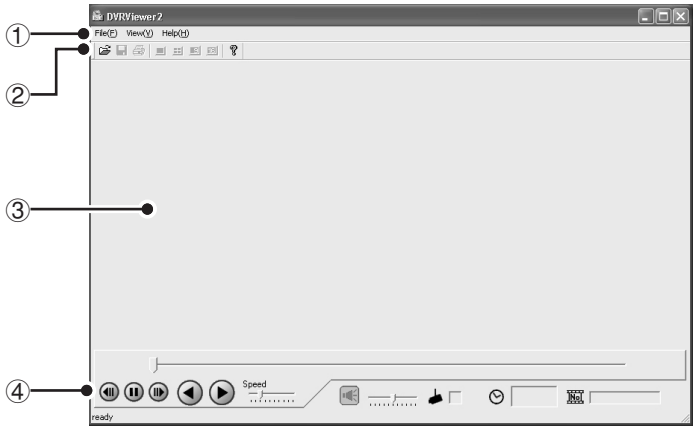
1 Running DVR Viewer2.
To run Viewer, double click the shortcut icon on the desktop or choose [Programs] → [SANYO] → [DVR Viewer2] → [DVR Viewer2] from the start menu.



2 To quit Viewer.
To quit Viewer, click [Exit] from the file menu or click the ( ) button situated in the top-right corner of the screen.

Structure of the Screen and the Function of each Section

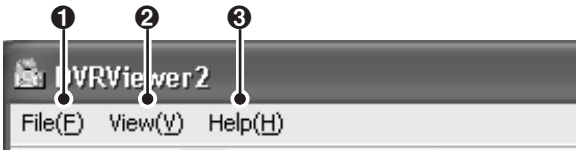
Running the Viewer software will result in the initial screen of the Viewer being displayed.



Initial screen

① Menu bar

This is the basic menu of the Viewer software. Click each menu to display the breakdown of each command.



❶ File menu

Open:
The [Open] dialog is displayed.
Save:
To save playback still images.
Print:
To print playback still images.
Title Input:
To display the dialog that allows you to input the title of the print image.
Exit:
To quit the Viewer software.

❷ View menu

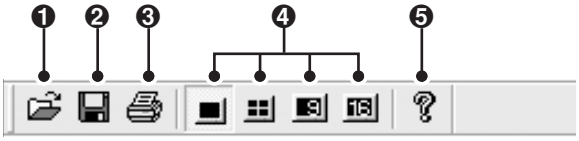
Toolbar:
To show/hide the toolbar.
Status bar:
To show/hide the status bar.
Camera Title:
To show/hide the camera title.
Date Display Format:
To set the date display format. (Refer to P216)
Time Display Position:
You can position the date and time display (bottom-right/top-right/top-left/bottom-left) on the playback images.
Image:
To specify the display pattern of the screen (1/4/9/16 screen). (Refer to P214)

❸ Help

To display the version of the Viewer software.

② Toolbar

Frequently used command bars are deployed.



❶ To display the [Open] dialog.
❷ To save playback still images in the bitmap format.
❸ To print playback still images.
❹ To switch the display pattern of the screen (1/4/9/16 screen).
❺ To display the version of the Viewer software.

③ Viewer screen

The images of the loaded image files are displayed.
Right clicking on the screen will display the context menu, which allows you to select the display pattern of the screen (1/4/9/16 screen) and the display channel.

④ Viewer operating panel

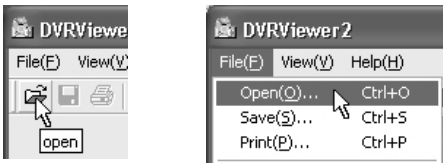
It operates the playback of the images that are displayed on the Viewer screen. (Refer to P215)

Opening Image Files

The image files are not displayed when the Viewer Software is run. Specify and open the playback file through the procedure below.

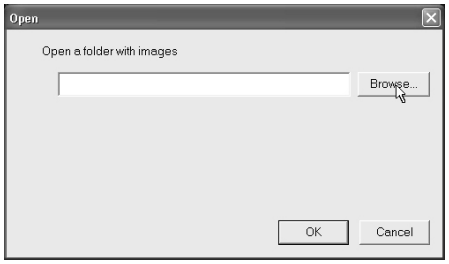
1 Click in the toolbar.

Or, click “Open” in the file menu.
The [Open] dialog is displayed.



2 Click Browse...

The [Browse for Folder] dialog is displayed.

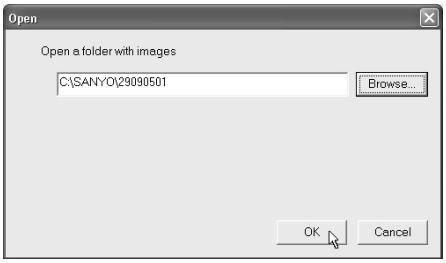


3 Specify the folder in which the images are saved and click [OK].

The folder specified in the [Open] dialog is displayed.

4 Verify the displayed folder and click [OK].

The image file loads.



5 Screen display

The first image of the loaded file is initially displayed on full screen.

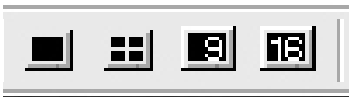
Refer to the appropriate pages for details about the operations of the Viewer Screen.

- Switching the display pattern (1/4/9/16 screen) of the playback images (Refer to P214)
- Selecting the channels displayed on each screen (Refer to P214)
- Operating panel functions (Refer to P215)

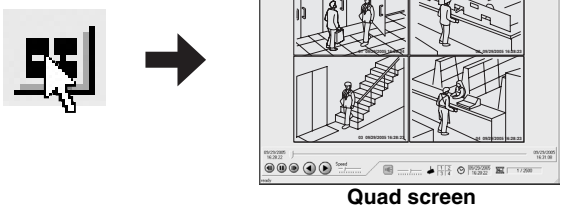
Switching the Display Pattern of the Screen

The image display pattern can be selected from 4 patterns: full screen, quad screen, 9 screen, 16 screen using the toolbar button.

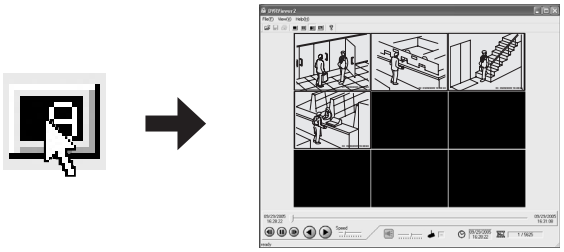
Toolbar



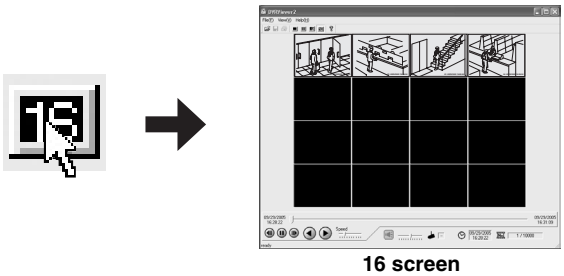
Full screen



Quad screen



9 screen



16 screen

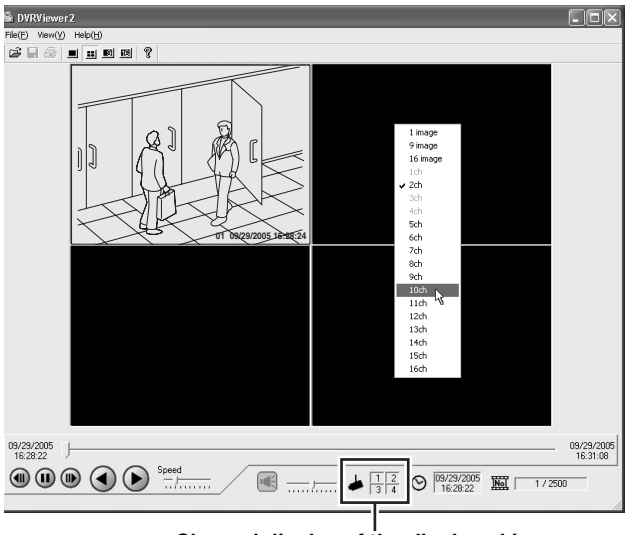
NOTE

- The display pattern can also be selected from the menu bar or from the context menu displayed on the screen.
- On the 4/9/16 screen, double clicking on a specific image will display it on full screen.

Selecting the Channel Displayed on the Screen

Right clicking the Viewer screen will display the context menu. Clicking the channel you want to display within the context menu will switch the channel display.
When using the quad screen, the number of the channels being viewed is displayed in [Channel] of the operating panel.

Example: Displaying channel number 10 in the top right screen



Channel display of the displayed image

NOTE

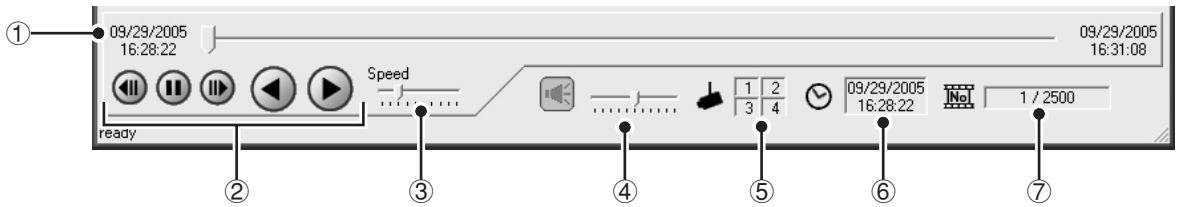
(Context Menu)

- The channel being currently displayed is checked on the specified channel.
- Unchecking a channel results in the images of that channel not being displayed but at least one image display is necessary for each screen pattern, therefore all the images on the screen cannot be turned off.
- The channel number of the image data that is not being saved is not displayed in the context menu.
- Multiple channels cannot be selected.
- The images of each channel are played back correspondingly.
  Even when switching the displayed channel, if there is no image data at the current point of playback, no images will be displayed.

Functions of the Viewer Operating Panel

The audio and image functions of the Viewer screen can be operated.

(Viewer Operating Panel)



① **Playback slide bar**
The time stamp (recording date and time) of the start and stop point of the playback file are displayed at both ends of the slide bar.
Sliding the slide bar knob allows you to move the playback point.

NOTE

- Clicking the knob or sliding the knob while clicking it displays the number of the image of the video being displayed, on the cursor.
- Clicking a position that differs from the current playback point using the slide bar will move the playback point by one percent of the total number of images.

② **Operating buttons**
Buttons that can be selected are black, buttons that are currently in function are green.

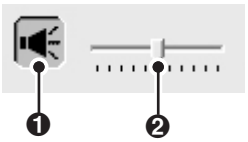
- : Rewinds to the previous image when the image is on pause.
- : Pauses the playback.
- : Forwards to the next image when the image is on pause.
- : If the slide bar knob is positioned to the right of the start point, the video can be played in reverse.
- : If the slide bar knob is positioned to the left of the stop point, the video can be played in sequence.

③ **Playback speed adjusting section (Initial setting: 3)**
Allows you to adjust the playback speed to 10 levels by sliding the slide bar knob.

CAUTION

- Set the playback speed while playback is stopped.
- When playing back audio, audio is played back at the rate at which it was recorded regardless of the [Playback Speed] set.

④ **Audio adjusting section**
Allows you to turn on/off and adjust the volume of the audio playback when a playback file contains audio data.



❶ Clicking the button turns the audio playback on and off.
❷ Sliding the knob allows you to adjust the audio volume to 10 levels.

CAUTION

- Be sure to stop playback before you turn on/off audio playback.
- Audio playback is only available when you are in the full screen layout.

⑤ **Channel display**
The number of the playback channel of the images being displayed is shown on full screen and quad screen.

⑥ **Time and date display**
The time stamp (recording date and time) of the images being viewed is displayed.

⑦ **Image number display**
The number of the “current image and the total number of images” is displayed.

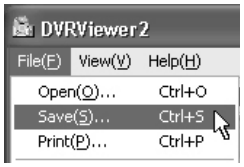
Saving and Printing Images

To save or print the image currently being displayed, switch to "**Full screen display**" and perform the following operations.

Saving images

Click in the toolbar or "Save" in the File menu.

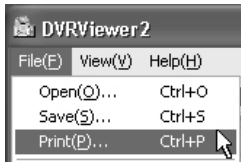
The save dialog appears.
Specify the destination folder and file and click [OK]. The image on the Viewer screen is saved in the bitmap format.



Printing Images

Click in the toolbar or click "Print" in the File menu.

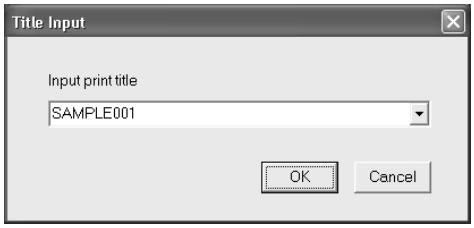
The print dialog appears.
Set the printing conditions and click [OK]. The image on the Viewer screen is printed full size.



Displaying a Title on the Image that is Printed

Click "Title Input" in the File menu.

The "Title Input" dialog appears. Type the title to be printed in the input box and click [OK]. The title is displayed at the bottom of the image when it is printed.

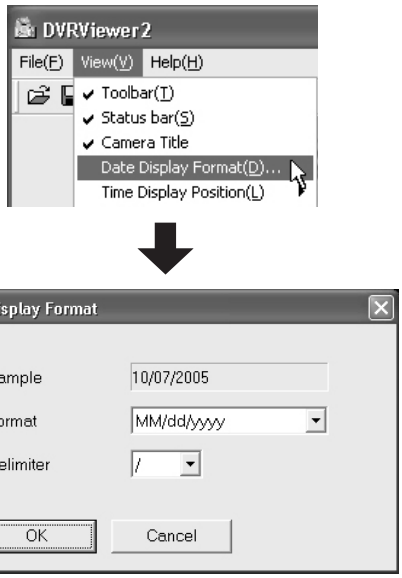


NOTE

- The ten most recent input titles are saved which allows you to choose a title using the pull down menu.

Setting the Date and Time Display Format

Clicking the "Date Display Format" will display the [Date Display Format] dialog. Set the format and delimiter and click [OK].



① **Display format (◆ indicates default setting)**
To set the date display format.

Selections:
◆ MM/dd/yyyy (Month/Day/Year)
dd/MM/yyyy (Day/Month/Year)
yyyy/MM/dd (Year/Month/Day)

② **Delimiter (◆ indicates default setting)**

Selections: / (◆Slash), **-** (Hyphen), **.** (Period)

③ **Sample**
When you change the display format or delimiter, the sample (preview) is updated with the new settings.

RS-485 specifications

Data format

Mode	Asynchronous
Character length	8 bits
Data transmission speed	2,400, 4,800, 9,600, 19,200 bps
Parity check	None
Stop bit	1 bit

Communication protocol

A proprietary Sanyo protocol (SSP: Security Serial Protocol) is used. Use of a special controller for operation is recommended. To obtain this controller, contact a Sanyo service center.

DVR/VCR command table

The table below shows the commands supported by the digital video recorder.

Left digit / Right digit	0	1	2	3	4	5	6	7
0				0			TIMER ON/OFF	
1				1				
2				2				
3				3		SHIFT←	SHIFT→	
4				4		SHIFT↑	SHIFT↓	MENU
5				5			SHIFT+ /RP UP	
6				6			SHIFT- /RP DOWN	
7				7				
8				8				
9				9			SECURITY LOCK ON	
A	ACK			PLAY	SEARCH		SECURITY LOCK OFF	
B	NAK							
C							GROUP SET	
D							GROUP CHECK	
E							GROUP CLEAR	
F				STOP	STILL			

Left digit / Right digit	8	9	A	B	C	D	E	F
0		FULL 1		ALARM SEARCH			CLOCK ADJUST	
1		FULL 2		ALARM SCAN			MENU RESET	
2	MULTI	FULL 3						
3	QUAD	FULL 4						
4	PLUS 1	FULL 5						
5	ZOOM	FULL 6				MPX STATUS SENSE		
6		FULL 7						
7	SEQUENCE	FULL 8				STATUS SENSE		
8	MONITOR2	FULL 9						MAIN MONITOR MODE
9		FULL 10					CLOCK DOWNLOAD	
A	ALARM RESET	FULL 11		CAMERA CONTROL (MPX)	REC			REC/DUB REQUEST
B		FULL 12	FF/ALARM F	CAMERA SWITCH				
C		FULL 13	REW/ALARM R					
D	COPY	FULL 14						RS-485 SEND START
E	OSD/EXIT	FULL 15						RS-485 RCV CMF.
F		FULL 16		STATUS LOG1	REC STOP			

Specifications

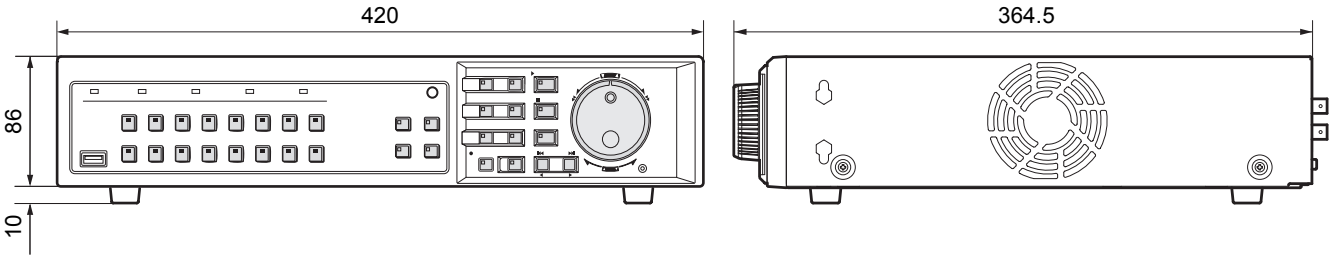
Product name		Digital video recorder with multiplexer function
Product number		DSR-5716P (16 channels), DSR-5709P (9 channels)
Hard disk capacity		Can be expanded using 80, 160, 250, 300 or 500 GB hard disk (sold separately)
Television system		Conforms to PAL format
Image compression		JPEG2000
Audio compression method		PCM
Recording resolution		720 x 288 (fields)
Recording type		Field recording
Picture quality		5 levels (Basic, Normal, Enhanced, Fine, Super Fine)
Recording rate		28 levels (100 to 0.033 FPS)
Recording areas		Recording area, Archive area
Magnification		x2 digital zoom using the [ZOOM] button
Search modes		Alarm log search, Alarm search, Alarm thumbnail search, Time/date search Archive area search, Motion detection search, Bookmark search
Date/clock settings		Day, Month, Year (last two digits), Hours, Minutes, Seconds
Date and time positions		2 position; upper and lower (display may also be turned off)
Camera title display		Each channel; up to 10 alphanumeric characters and symbols (display may also be turned off)
Memory backup		Approximately 30 days (for 48 hours of electrification)
Video input terminal		VBS/VS 1.0 V (p-p), 75 Ω, BNC (DSR-5716P: x16, DSR-5709P: x9)
Video output terminal		Through output of each video input, BNC (DSR-5716P: x16, DSR-5709P: x9)
Main monitor output terminal		VBS 1.0 V (p-p), 75 Ω, BNC (x1)
Monitor 2 output terminal		VBS 1.0 V (p-p), 75 Ω, BNC (x1)
VGA output		Dsub-15 pin
Audio input terminal		−8 dBs, 47 kΩ, unbalanced RCA (x2)
Audio output terminal		−8 dBs, 1 kΩ, unbalanced RCA (x1)
Terminals	LAN terminal	10BASE-T/100BASE-TX, RJ-45 (x1) Compatible protocol: UDP, TCP/IP, HTTP server, NTP, SMTP, DHCP
	RS-485/422 terminal	RJ-11 (x2) (with a termination switch)
	USB terminal	Internal USB 2.0 x 2 (front terminal prioritized)
	Remote control input terminal	Two-wire voltage control (x2)
	Alarm input terminals	No-volt contacts (with a pulse width of 100 ms or more) (DSR-5716P: x16, DSR-5709P: x9)
	Alarm output terminal	Relay (DC24V MAX. 1A /AC125V MAX. 0.3A)
	Sensor alarm output terminals	Open collector, Low level active (Max. 25 mA) (DSR-5716P: x16, DSR-5709P: x9)
	Alarm reset input terminal	No-volt contacts (with a pulse width of 100 ms or more) (x1)
	Non rec out terminal	Normal 5V DC, Low level active (x1)
	Clock adjust input terminal	No-volt contacts (with a pulse width of 100 ms or more) (x1)
	Clock adjust output terminal	Open collector, Low level active (Max. 25 mA)
	Warning output terminal	Normal 5V DC, Low level active (x1)
	Normal recording area disk full warning output terminal	Normal 5V DC, Low level active (x1)
	OUTPU1, OUTPUT2	Normal 5V DC, Low level active (x1)
	External timer input terminal	No-volt contacts (with a pulse width of 100 ms or more) (x1)
Expandable slot		Option SCSI board (Ultra 160 SCSI), Option S-ATA board
Power supply voltage		120 to 240 V AC, 50/60 Hz
Current consumption		720 mA
Allowable operating temperature		5 – 40ºC
Allowable operating humidity		10 – 80%
Dimensions		420 (W) x 86 (H) x 364.5 (D) mm (Not including protruding areas or rubber pads)
Weight		5.5 kg without HDD, 6.1 kg with HDD, 6.7 kg with 2 HDDs
Accessories		Power cord (x1), Power cord tie (x1)

Note that product appearance and specifications are subject to change without prior notice.

Dimensions

Units: mm

DSR-5716P



DSR-5709P

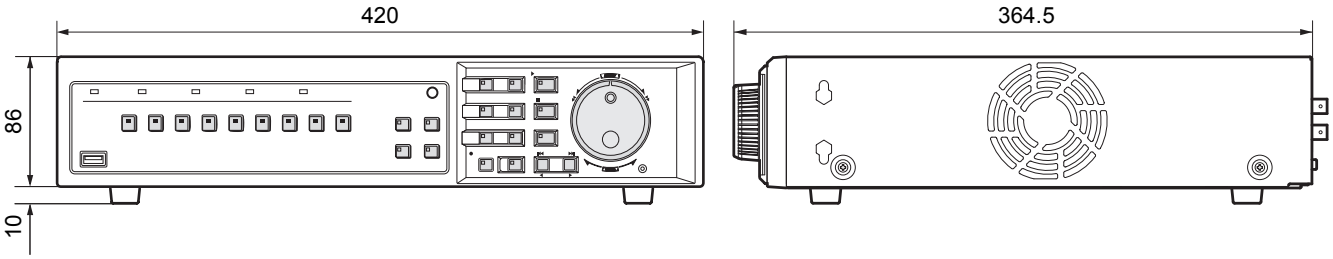


Table of recording rates and times

The recording time can be changed by modifying the recording rate and the recording picture quality.
The following table provides reference values for picture quality and recording rate when video is recorded to the recording area of the hard disk.

- Recording days may change for different recorded videos.

■ Example: Recording to a 300 GB hard disk; internal HDD 300GB*1 (99%-usage)

(Unit: day)

Recording rate FPS (field/sec)	Recording time				
	BASIC	NORMAL	ENHANCED	FINE	SUPER FINE
	12 KB	16 KB	24 KB	32 KB	40 KB
100	2.20	1.70	1.16	0.87	0.70
50	4.45	3.41	2.33	1.75	1.41
25	8.95	6.83	4.66	3.50	2.83
16.67	13.45	10.29	7.00	5.29	4.25
12.5	17.95	13.70	9.33	7.04	5.66
8.333	26.91	20.58	14.00	10.58	8.54
6.25	35.91	27.45	18.66	14.12	11.37
5	44.91	34.33	23.33	17.66	14.20
4.167	53.87	41.20	28.00	21.20	17.08
3.571	62.87	48.08	32.66	24.75	19.91
3.125	71.87	54.95	37.37	28.29	22.75
2.778	80.83	61.83	42.04	31.83	25.62
2.5	89.83	68.66	46.70	35.37	28.45
2.273	98.79	75.54	51.37	38.91	31.33
1.923	116.79	89.29	60.70	46.00	37.00
1.667	134.75	103.04	70.04	53.08	42.70
1.471	152.70	116.79	79.41	60.16	48.41
1.316	170.66	130.50	88.75	67.20	54.12
1.19	188.66	144.25	98.08	74.29	59.79
1.087	206.62	158.00	107.41	81.37	65.50
1	224.58	171.75	116.79	88.45	71.20
0.5	449.20	343.50	233.58	176.95	142.41
0.333	673.83	515.25	350.37	265.41	213.62
0.25	898.41	687.04	467.16	353.91	284.83
0.2	1123.04	858.79	583.95	442.41	356.08
0.1	2246.08	1717.58	1167.95	884.83	712.16
0.05	4492.20	3435.20	2335.95	1769.66	1424.33
0.033	6738.33	5152.83	3503.91	2654.50	2136.54

■ Example: Recording to a 500 GB hard disk; internal HDD 500GB*1 (99%-usage)

(Unit: day)

Recording rate FPS (field/sec)	Recording time				
	BASIC	NORMAL	ENHANCED	FINE	SUPER FINE
	12 KB	16 KB	24 KB	32 KB	40 KB
100	3.79	2.87	1.95	1.50	1.20
50	7.58	5.79	3.95	3.00	2.41
25	15.20	11.62	7.91	6.00	4.83
16.67	22.83	17.45	11.87	9.00	7.25
12.5	30.45	23.29	15.83	12.00	9.66
8.333	45.70	34.95	23.75	18.00	14.50
6.25	60.95	46.62	31.70	24.00	19.33
5	76.20	58.25	39.62	30.00	24.16
4.167	91.45	69.91	47.54	36.00	29.00
3.571	106.70	81.58	55.45	42.00	33.83
3.125	121.91	93.25	63.41	48.04	38.66
2.778	137.16	104.91	71.33	54.04	43.50
2.5	152.41	116.54	79.25	60.04	48.33
2.273	167.66	128.20	87.16	66.04	53.16
1.923	198.16	151.54	103.04	78.04	62.83
1.667	228.66	174.83	118.87	90.04	72.50
1.471	259.12	198.16	134.75	102.08	82.16
1.316	289.62	221.45	150.58	114.08	91.83
1.19	320.12	244.79	166.45	126.08	101.50
1.087	350.58	268.08	182.29	138.08	111.16
1	381.08	291.41	198.16	150.12	120.83
0.5	762.20	582.87	396.33	300.25	241.66
0.333	1143.33	874.29	594.50	450.37	362.50
0.25	1524.41	1165.75	792.70	600.50	483.33
0.2	1905.54	1457.16	990.87	750.66	604.16
0.1	3811.08	2914.37	1981.75	1501.33	1208.37
0.05	7622.20	5828.75	3963.54	3002.66	2416.79
0.033	11433.33	8743.12	5945.33	4504.04	3625.20

: Area where audio recording is possible (when recording audio, the recording time is shorter than that shown above.)

■ **Example: Recording to 2600 GB hard disks; internal HDD 300GB*2 + external HDD 500GB*2 (99%-usage)**

(Unit: day)

Recording rate FPS (field/sec)	Recording time				
	BASIC	NORMAL	ENHANCED	FINE	SUPER FINE
	12 KB	16 KB	24 KB	32 KB	40 KB
100	19.58	14.91	10.16	7.75	6.25
50	39.25	30.00	20.50	15.50	12.50
25	78.75	60.16	41.00	31.00	25.00
16.67	118.25	90.41	61.50	46.58	37.50
12.5	157.75	120.58	82.00	62.08	50.00
8.333	236.66	181.00	123.00	93.16	75.08
6.25	315.66	241.41	164.16	124.25	100.08
5	394.66	301.66	205.16	155.33	125.08
4.167	473.58	362.08	246.16	186.41	150.16
3.571	552.58	422.50	287.16	217.50	175.16
3.125	631.41	482.91	328.41	248.75	200.16
2.778	710.33	543.33	369.41	279.83	225.25
2.5	789.33	603.50	410.41	310.91	250.25
2.273	868.25	663.91	451.41	342.00	275.33
1.923	1026.25	784.75	533.58	404.16	325.33
1.667	1184.16	905.41	615.58	466.33	375.41
1.471	1341.91	1026.25	697.83	528.66	425.50
1.316	1499.83	1146.83	779.83	590.75	475.58
1.19	1657.83	1267.66	862.00	652.91	525.58
1.087	1815.58	1388.33	944.00	715.08	575.66
1	1973.50	1509.16	1026.25	777.41	625.75
0.5	3947.25	3018.50	2052.50	1554.91	1251.50
0.333	5921.00	4527.66	3078.75	2332.33	1877.25
0.25	7894.50	6037.08	4105.16	3109.83	2503.00
0.2	9868.25	7546.25	5131.41	3887.50	3128.83
0.1	19736.50	15092.66	10262.91	7775.00	6257.83
0.05	39473.25	30185.41	20526.08	15550.00	12515.83
0.033	59210.00	45278.16	30789.16	23325.16	18773.91

■ **Example: Recording to 4000 GB hard disks; internal HDD 500GB*2 + external HDD 750GB*4 (99%-usage)**

(Unit: day)

Recording rate FPS (field/sec)	Recording time				
	BASIC	NORMAL	ENHANCED	FINE	SUPER FINE
	12 KB	16 KB	24 KB	32 KB	40 KB
100	30.58	23.25	15.75	12.00	9.58
50	61.16	46.75	31.75	24.16	19.33
25	122.58	93.75	63.66	48.33	38.83
16.67	184.00	140.75	95.58	72.50	58.33
12.5	245.41	187.58	127.50	96.66	77.83
8.333	368.25	281.58	191.33	145.00	116.66
6.25	490.91	375.41	255.25	193.33	155.66
5	613.75	469.16	319.08	241.66	194.50
4.167	736.58	563.16	382.91	290.00	233.50
3.571	859.25	657.00	446.75	338.33	272.33
3.125	982.00	751.00	510.66	386.75	311.33
2.778	1104.83	844.83	574.50	435.25	350.16
2.5	1227.50	938.58	638.33	483.58	389.16
2.273	1350.33	1032.58	702.00	531.91	428.16
1.923	1595.83	1220.41	829.75	628.58	506.00
1.667	1841.50	1408.00	957.41	725.25	583.83
1.471	2086.91	1595.83	1085.16	822.00	661.66
1.316	2332.41	1783.58	1212.83	918.83	739.50
1.19	2578.08	1971.41	1340.58	1015.50	817.33
1.087	2823.50	2159.16	1468.08	1112.16	895.16
1	3069.00	2346.83	1595.83	1208.91	973.00
0.5	6138.25	4693.91	3191.83	2418.00	1946.16
0.333	9207.50	7040.91	4787.83	3627.08	2919.33
0.25	12276.50	9388.00	6383.75	4836.16	3892.50
0.2	15345.75	11735.00	7979.75	6045.16	4865.66
0.1	30691.50	23470.08	15959.50	12090.50	9731.41
0.05	61383.25	46940.16	31919.25	24181.16	19462.91
0.033	92075.00	70410.25	47879.00	36271.91	29194.41

: Area where audio recording is possible (when recording audio, the recording time is shorter than that shown above.)

Table of recording rate settings

This table indicates recording times for pre-alarm recording, and it should be used when this type of recording is being carried out.

Recording rate FPS (field/sec)	Normal recording rate (Note1)	Alarm recording rate	Pre-alarm recording rate (Note2)
100	◯ (Note3)		◯ (Note3)
50	◯ (Note3)	◯ (Note3)	◯ (Note3)
25	◯	◯	◯
16.67	◯	◯	◯
12.5	◯	◯	◯
8.333	◯	◯	◯
6.25	◯	◯	◯
5	◯	◯	◯
4.167	◯	◯	◯
3.571	◯	◯	◯
3.125	◯	◯	◯
2.778	◯	◯	◯
2.5	◯	◯	◯
2.273	◯	◯	◯
1.923	◯	◯	◯
1.667	◯	◯	◯
1.471	◯	◯	◯
1.316	◯	◯	◯
1.19	◯	◯	◯
1.087	◯	◯	◯
1	◯	◯	◯
0.5	◯	◯	
0.333	◯	◯	
0.25	◯	◯	
0.2	◯	◯	
0.1	◯	◯	
0.05	◯	◯	
0.033	◯	◯	

(Note 1) When mirroring or pre-alarm recording is set to “ON”, recording rates that can be set are limited.
(Note 2) When mirroring is set to “ON”, recording rates that can be set are limited.
(Note 3) Cannot be set when only one camera is connected.

Recording rate FPS (field/sec)	Program recording rate (Note4)
25	◯
12.5	◯
6.25	◯
3.125	◯
1.563	◯
1	◯
0.5	◯
0.333	◯
0.25	◯
0.2	◯
0.1	◯
0.05	◯
0.033	◯
OFF	◯

(Note 4) When mirroring or pre-alarm recording is set to “ON”, recording rates that can be set are limited.
(Note) For program recording, set recording rate per channel. Recording rates that can be set per channel are automatically calculated.
Recording rates that cannot be selected

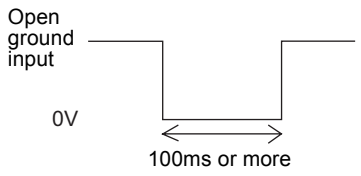
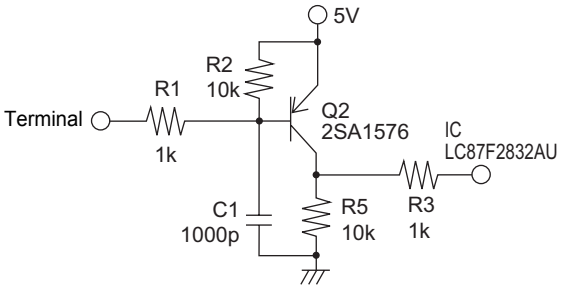
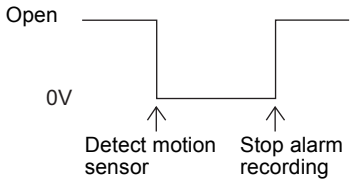
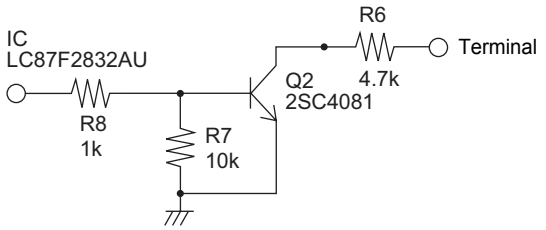
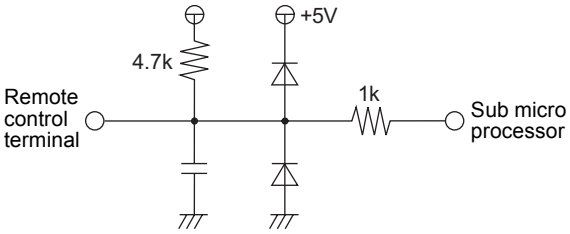
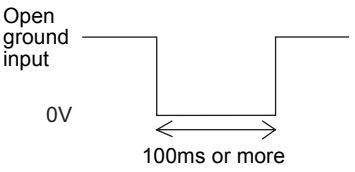
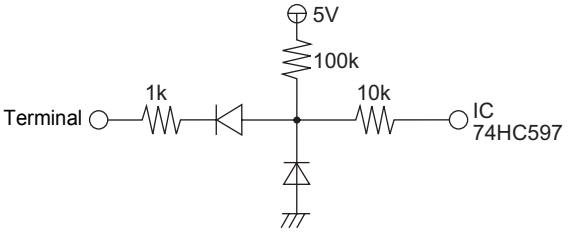
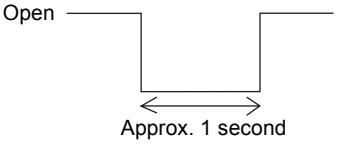
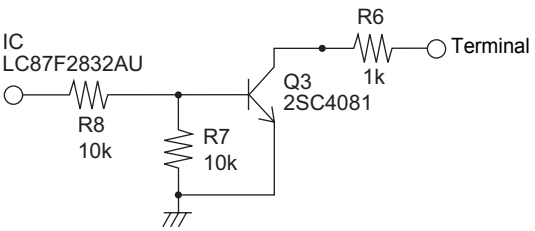
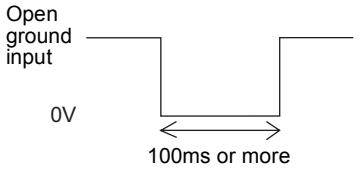
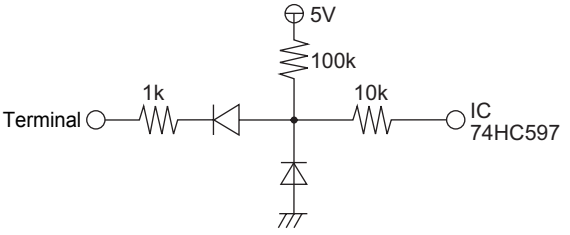
Table of pre-alarm recording times

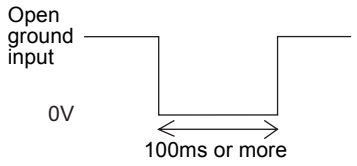
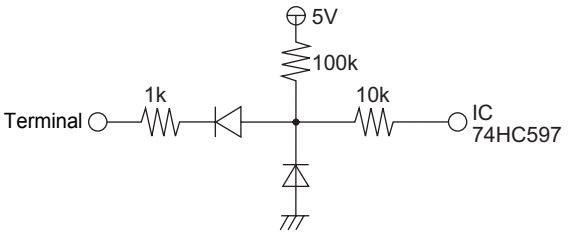
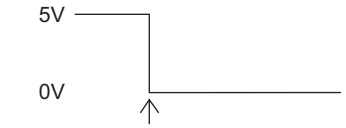
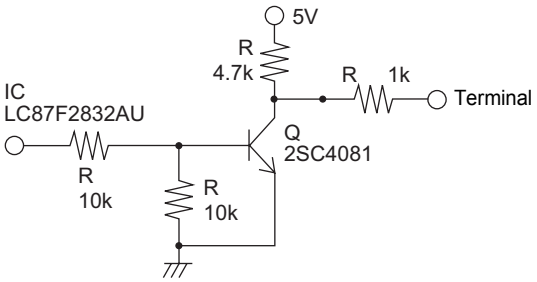
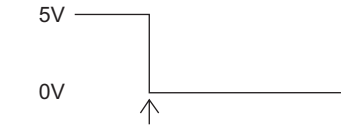
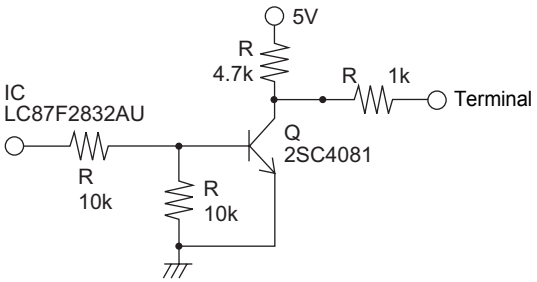
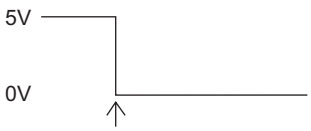
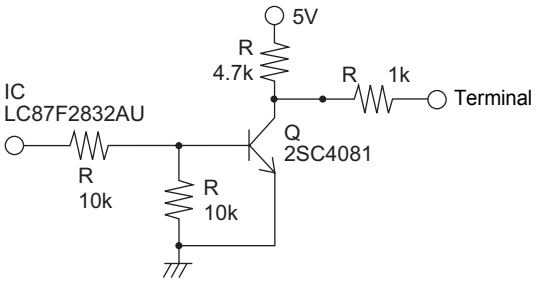
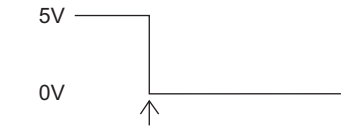
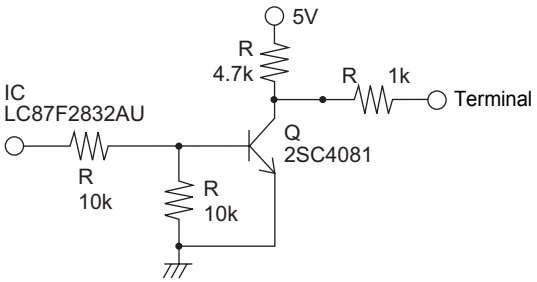
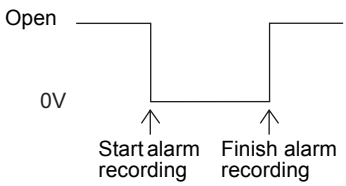
Recording rate FPS (field/sec)	Recording time (Display of time on menu screens s: seconds m: minutes)										
	5 s (5s)	10 s (10s)	20 s (20s)	40 s (40s)	60 s (1 m)	120 s (2 m)	180 s (3 m)	240 s (4 m)	300 s (5 m)	500 s (10 m)	900 s (15 m)
100	○	○	○	○	○	○	○	○	○	○	○
50	○	○	○	○	○	○	○	○	○	○	○
25	○	○	○	○	○	○	○	○	○	○	○
16.67	○	○	○	○	○	○	○	○	○	○	○
12.5	○	○	○	○	○	○	○	○	○	○	○
8.333		○	○	○	○	○	○	○	○	○	○
6.25		○	○	○	○	○	○	○	○	○	○
5		○	○	○	○	○	○	○	○	○	○
4.167			○	○	○	○	○	○	○	○	○
3.571			○	○	○	○	○	○	○	○	○
3.125			○	○	○	○	○	○	○	○	○
2.778			○	○	○	○	○	○	○	○	○
2.5			○	○	○	○	○	○	○	○	○
2.273			○	○	○	○	○	○	○	○	○
1.923				○	○	○	○	○	○	○	○
1.667				○	○	○	○	○	○	○	○
1.563					○	○	○	○	○	○	○
1.471					○	○	○	○	○	○	○
1.316					○	○	○	○	○	○	○
1.19					○	○	○	○	○	○	○
1.087					○	○	○	○	○	○	○
1					○	○	○	○	○	○	○

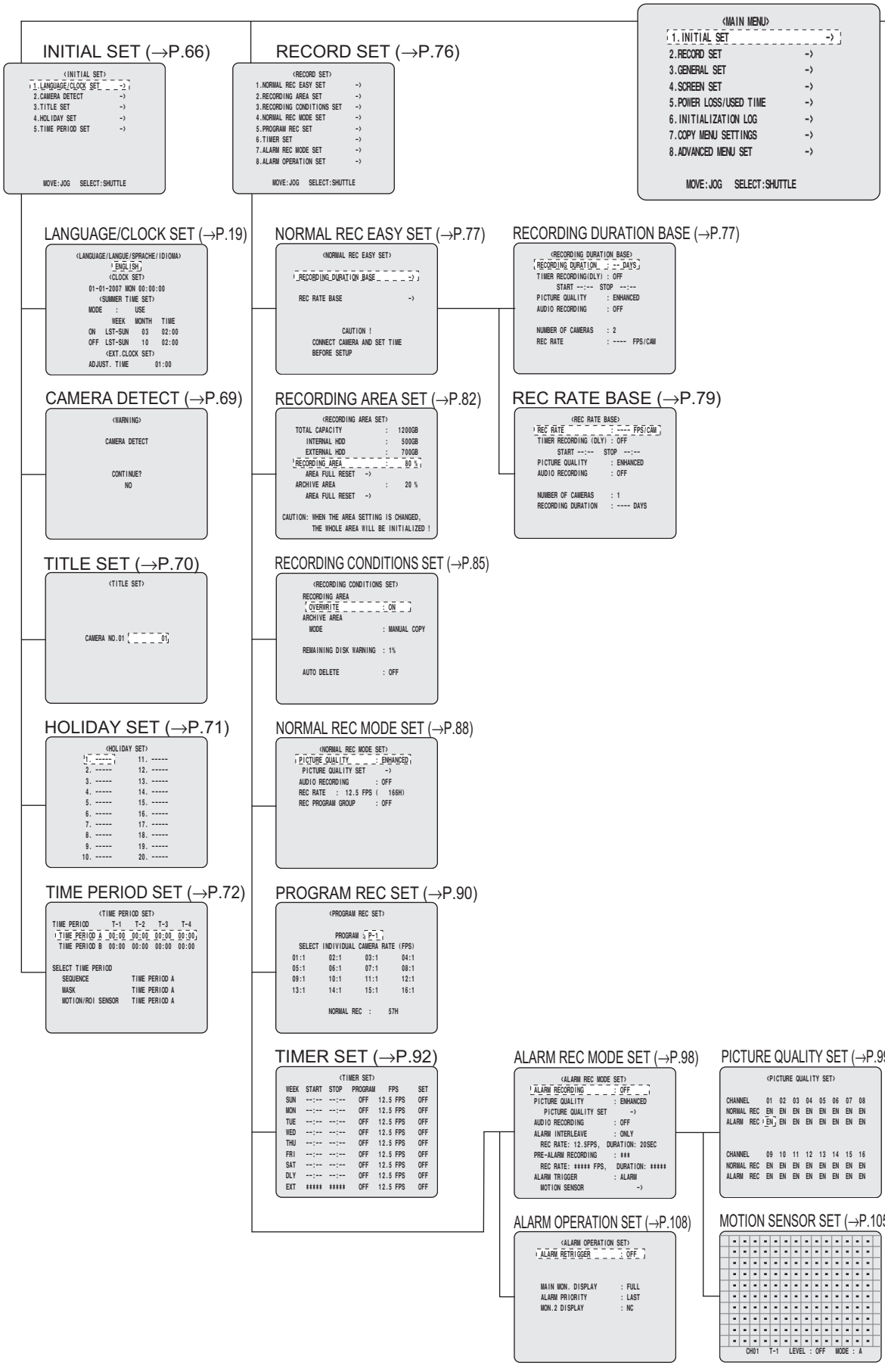
Default setting, Recording rate: 12.5 FPS, Recording time: 1 min.

When setting alarm durations using a menu, settings are restricted to those available for the selected recording rate.
Similarly, when setting recording rates, the setting range is restricted to that available for the selected duration. For example, if the alarm duration is set to 5 seconds, the recording rate can be set between 100 FPS and 12.5 FPS.
When setting fast recording rates, it may be necessary to first of all change the alarm duration setting.

Terminal board specifications

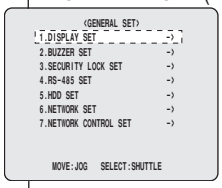
Input/output terminals	Signal level	Input/output circuit
Alarm input [No-volt contacts]		
Sensor alarm output [Open collector/1kΩ, Low level active (max: 10mA 1/10W)]		
CTL4,5 Remote control input [Two-wire voltage control]	(→P.17)	
CTL6 Clock adjust input [No-volt contacts]		
CTL7 Clock adjust output [Open collector/1kΩ, Low level active]		
CTL8 External timer input [No-volt contacts]		

Input/output terminals	Signal level	Input/output circuit
CTL9 Alarm reset input [No-volt contacts]		
CTL10 Warning output [DC5V/5.7kΩ, Active Low]		
CTL11 Normal recording area disk full warning output [DC5V/5.7kΩ, Active Low]		
CTL12 Non rec output/ VIDEO LOSS [DC5V/5.7kΩ, Active Low]		
CTL13 Backup remaining amount/ Timer recording output [DC5V/5.7kΩ, Active Low]		
CTL14 Alarm output [Relay DC24V MAX. 1A AC125V MAX. 0.3A Normally open]		

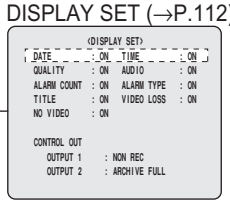

〈MAIN MENU〉
1.INITIAL SET ->
2.RECORD SET ->
3.GENERAL SET ->
4.SCREEN SET ->
5.POWER LOSS/USED TIME ->
6.INITIALIZATION LOG ->
7.COPY MENU SETTINGS ->
8.ADVANCED MENU SET ->
MOVE:JOG SELECT:SHUTTLE
INITIAL SET (→P.66)
〈INITIAL SET〉
1.LANGUAGE/CLOCK SET ->
2.CAMERA DETECT ->
3.TITLE SET ->
4.HOLIDAY SET ->
5.TIME PERIOD SET ->
MOVE:JOG SELECT:SHUTTLE
RECORD SET (→P.76)
〈RECORD SET〉
1.NORMAL REC EASY SET ->
2.RECORDING AREA SET ->
3.RECORDING CONDITIONS SET ->
4.NORMAL REC MODE SET ->
5.PROGRAM REC SET ->
6.TIMER SET ->
7.ALARM REC MODE SET ->
8.ALARM OPERATION SET ->
MOVE:JOG SELECT:SHUTTLE
LANGUAGE/CLOCK SET (→P.19)
〈LANGUAGE/LANGUE/SPRACHE/IDIOMA〉
ENGLISH
〈CLOCK SET〉
01-01-2007 MON 00:00:00
〈SUMMER TIME SET〉
MODE : USE
WEEK MONTH TIME
ON LST-SUN 03 02:00
OFF LST-SUN 10 02:00
〈EXT.CLOCK SET〉
ADJUST. TIME 01:00
NORMAL REC EASY SET (→P.77)
〈NORMAL REC EASY SET〉
RECORDING DURATION BASE ->
REC RATE BASE ->
CAUTION !
CONNECT CAMERA AND SET TIME
BEFORE SETUP
RECORDING DURATION BASE (→P.77)
〈RECORDING DURATION BASE〉
RECORDING DURATION : -- DAYS
TIMER RECORDING(DLY) : OFF
START --:-- STOP --:--
PICTURE QUALITY : ENHANCED
AUDIO RECORDING : OFF
NUMBER OF CAMERAS : 2
REC RATE : ---- FPS/CAM
CAMERA DETECT (→P.69)
〈WARNING〉
CAMERA DETECT
CONTINUE?
NO
RECORDING AREA SET (→P.82)
〈RECORDING AREA SET〉
TOTAL CAPACITY : 1200GB
INTERNAL HDD : 500GB
EXTERNAL HDD : 700GB
RECORDING AREA : 80 %
AREA FULL RESET ->
ARCHIVE AREA : 20 %
AREA FULL RESET ->
CAUTION: WHEN THE AREA SETTING IS CHANGED,
THE WHOLE AREA WILL BE INITIALIZED !
REC RATE BASE (→P.79)
〈REC RATE BASE〉
REC RATE : ---- FPS/CAM
TIMER RECORDING (DLY) : OFF
START --:-- STOP --:--
PICTURE QUALITY : ENHANCED
AUDIO RECORDING : OFF
NUMBER OF CAMERAS : 1
RECORDING DURATION : ---- DAYS
TITLE SET (→P.70)
〈TITLE SET〉
CAMERA NO.01 01
RECORDING CONDITIONS SET (→P.85)
〈RECORDING CONDITIONS SET〉
RECORDING AREA
OVERWRITE : ON
ARCHIVE AREA
MODE : MANUAL COPY
REMAINING DISK WARNING : 1%
AUTO DELETE : OFF
HOLIDAY SET (→P.71)
〈HOLIDAY SET〉
1. ----/--
2. -----
3. -----
4. -----
5. -----
6. -----
7. -----
8. -----
9. -----
10. -----
11. -----
12. -----
13. -----
14. -----
15. -----
16. -----
17. -----
18. -----
19. -----
20. -----
NORMAL REC MODE SET (→P.88)
〈NORMAL REC MODE SET〉
PICTURE QUALITY : ENHANCED
PICTURE QUALITY SET ->
AUDIO RECORDING : OFF
REC RATE : 12.5 FPS (166H)
REC PROGRAM GROUP : OFF
TIME PERIOD SET (→P.72)
〈TIME PERIOD SET〉
TIME PERIOD T-1 T-2 T-3 T-4
TIME PERIOD A 00:00 00:00 00:00 00:00
TIME PERIOD B 00:00 00:00 00:00 00:00
SELECT TIME PERIOD
SEQUENCE TIME PERIOD A
MASK TIME PERIOD A
MOTION/ROI SENSOR TIME PERIOD A
PROGRAM REC SET (→P.90)
〈PROGRAM REC SET〉
PROGRAM : P-1
SELECT INDIVIDUAL CAMERA RATE (FPS)
01:1 02:1 03:1 04:1
05:1 06:1 07:1 08:1
09:1 10:1 11:1 12:1
13:1 14:1 15:1 16:1
NORMAL REC : 57H
TIMER SET (→P.92)
〈TIMER SET〉
WEEK START STOP PROGRAM FPS SET
SUN --:-- --:-- OFF 12.5 FPS OFF
MON --:-- --:-- OFF 12.5 FPS OFF
TUE --:-- --:-- OFF 12.5 FPS OFF
WED --:-- --:-- OFF 12.5 FPS OFF
THU --:-- --:-- OFF 12.5 FPS OFF
FRI --:-- --:-- OFF 12.5 FPS OFF
SAT --:-- --:-- OFF 12.5 FPS OFF
DLY --:-- --:-- OFF 12.5 FPS OFF
EXT ***** ***** OFF 12.5 FPS OFF
ALARM REC MODE SET (→P.98)
〈ALARM REC MODE SET〉
ALARM RECORDING : OFF
PICTURE QUALITY : ENHANCED
PICTURE QUALITY SET ->
AUDIO RECORDING : OFF
ALARM INTERLEAVE : ONLY
REC RATE: 12.5FPS, DURATION: 20SEC
PRE-ALARM RECORDING : ***
REC RATE: ***** FPS, DURATION: *****
ALARM TRIGGER : ALARM
MOTION SENSOR ->
PICTURE QUALITY SET (→P.99)
〈PICTURE QUALITY SET〉
CHANNEL 01 02 03 04 05 06 07 08
NORMAL REC EN EN EN EN EN EN EN EN
ALARM REC EN EN EN EN EN EN EN EN
CHANNEL 09 10 11 12 13 14 15 16
NORMAL REC EN EN EN EN EN EN EN EN
ALARM REC EN EN EN EN EN EN EN EN
ALARM OPERATION SET (→P.108)
〈ALARM OPERATION SET〉
ALARM RETRIGGER : OFF
MAIN MON. DISPLAY : FULL
ALARM PRIORITY : LAST
MON.2 DISPLAY : NC
MOTION SENSOR SET (→P.105)
CH01 T-1 LEVEL : OFF MODE : A

Continued

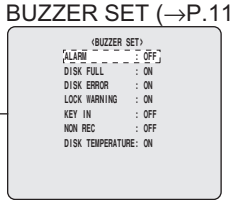
GENERAL SET (→P.111)



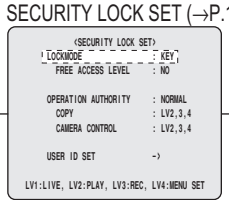
DISPLAY SET (→P.112)


〈DISPLAY SET〉
DATE : ON TIME : ON
QUALITY : ON AUDIO : ON
ALARM COUNT : ON ALARM TYPE : ON
TITLE : ON VIDEO LOSS : ON
NO VIDEO : ON
CONTROL OUT
OUTPUT 1 : NON REC
OUTPUT 2 : ARCHIVE FULL

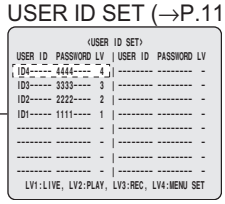
BUZZER SET (→P.114)



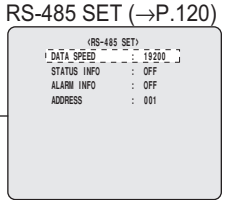
SECURITY LOCK SET (→P.115)



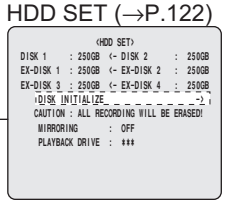
USER ID SET (→P.117)


〈USER ID SET〉
USER ID PASSWORD LV | USER ID PASSWORD LV
ID4----- 4444---- 4 | -------- -------- -
ID3----- 3333---- 3 | -------- -------- -
ID2----- 2222---- 2 | -------- -------- -
ID1----- 1111---- 1 | -------- -------- -
LV1:LIVE, LV2:PLAY, LV3:REC, LV4:MENU SET

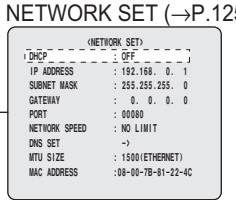
RS-485 SET (→P.120)



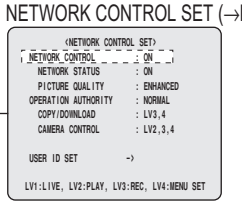
HDD SET (→P.122)


〈HDD SET〉
DISK 1 : 250GB (- DISK 2 : 250GB
EX-DISK 1 : 250GB (- EX-DISK 2 : 250GB
EX-DISK 3 : 250GB (- EX-DISK 4 : 250GB
DISK INITIALIZE ->
CAUTION : ALL RECORDING WILL BE ERASED!
MIRRORING : OFF
PLAYBACK DRIVE : ###

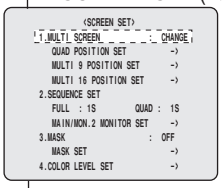
NETWORK SET (→P.125)


〈NETWORK SET〉
DHCP : OFF
IP ADDRESS : 192.168. 0. 1
SUBNET MASK : 255.255.255. 0
GATEWAY : 0. 0. 0. 0
PORT : 00080
NETWORK SPEED : NO LIMIT
DNS SET ->
MTU SIZE : 1500(ETHERNET)
MAC ADDRESS :08-00-7B-81-22-4C

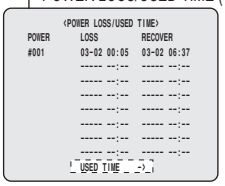
NETWORK CONTROL SET (→P.128)



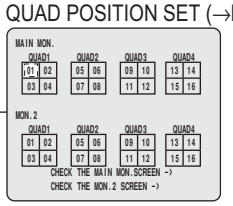
SCREEN SET (→P.132)



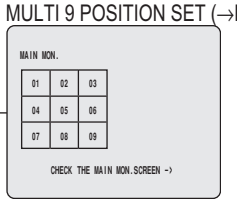
POWER LOSS/USED TIME (→ P.139)



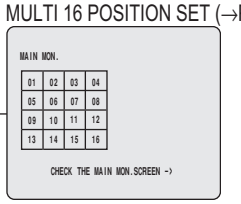
QUAD POSITION SET (→P.132)



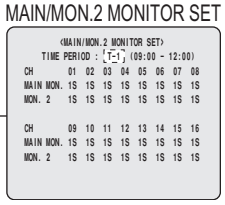
MULTI 9 POSITION SET (→P.132)



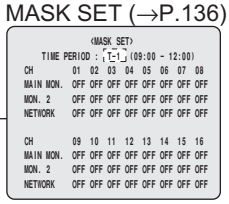
MULTI 16 POSITION SET (→P.132)



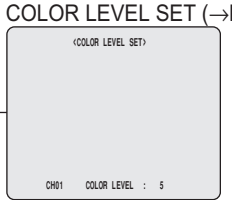
MAIN/MON.2 MONITOR SET (→P.134)



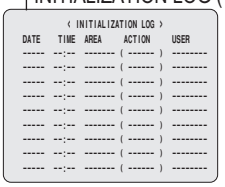
MASK SET (→P.136)



COLOR LEVEL SET (→P.138)



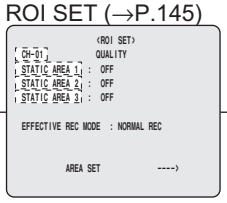
INITIALIZATION LOG (→P.140)



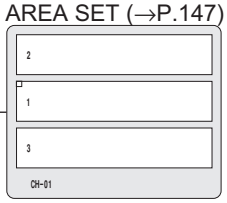
COPY MENU SETTINGS (→P.141)

ADVANCED MENU SET (→P.144)

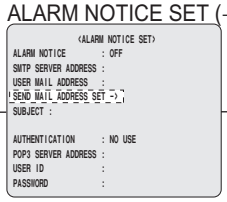
ROI SET (→P.145)



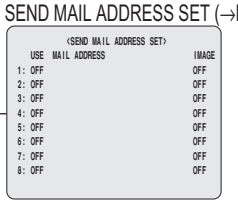
AREA SET (→P.147)



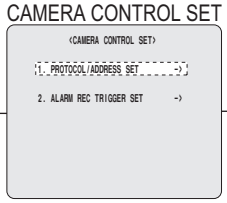
ALARM NOTICE SET (→P.149)



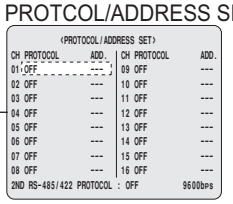
SEND MAIL ADDRESS SET (→P.149)



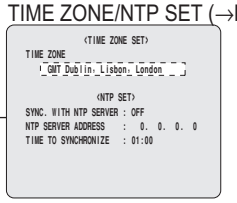
CAMERA CONTROL SET (→P.150)



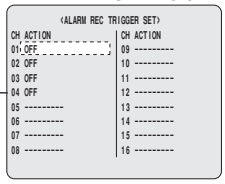
PROTCOL/ADDRESS SET (→P.150)



TIME ZONE/NTP SET (→P.154)



ALRAM REC TRIGGER SET (→P.152)



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```

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